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# WAR MACHINE

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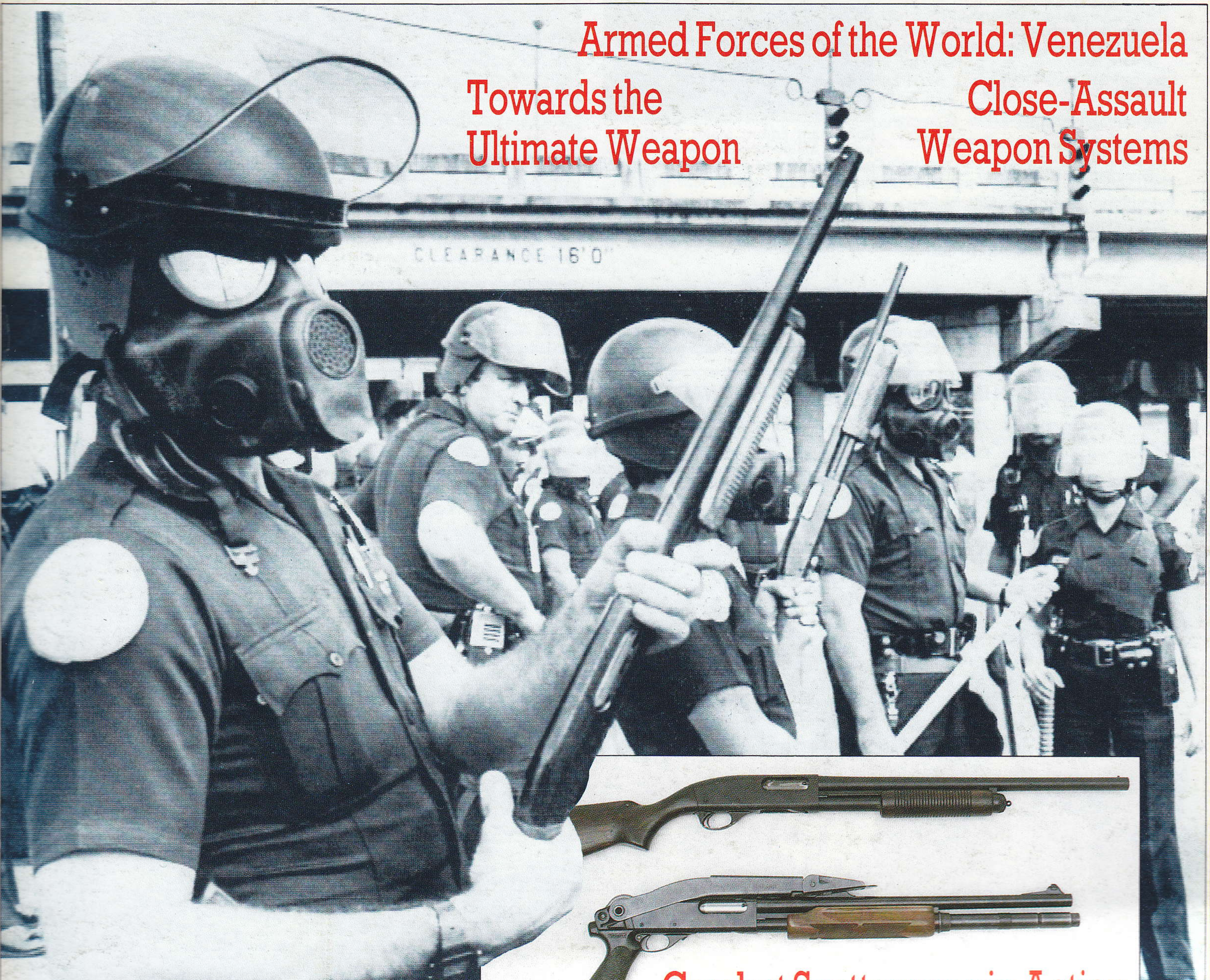
Towards the Ultimate Weapon

Close-Assault Weapon Systems



Combat Scatterguns in Action

## A fully illustrated guide to Combat Shotguns

# WAR MACHINE

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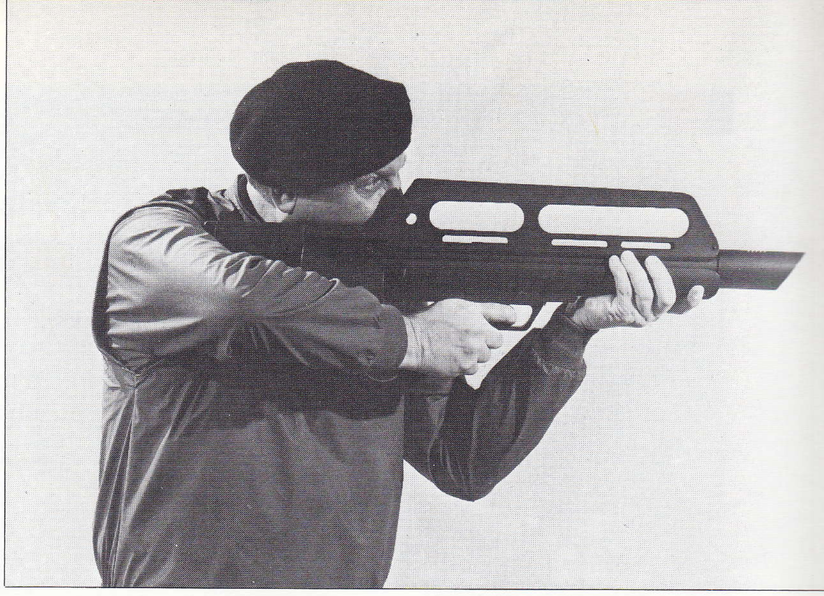
# Combat Shotguns

***Shotguns are unrivalled as close combat weapons, but although they saw service in the trenches during World War I it was not until British troops used them in Malaya during the 1950s that their true military value began to be appreciated. Today their potential is at last being developed, and purpose-built combat shotguns are entering service.***



*The Pancor Jackhammer may well point the way to future combat shotguns, borrowing from current assault rifle technology to provide a more battleworthy weapon. The 10-round, quick-change magazine is also more practical than previous methods of charging one's piece.*

The shotgun has for long been regarded as an 'unmilitary' weapon that for ill-defined reasons should have no place in military activities. That attitude has been proved wrong many times over the last century, and things have finally reached the state where a properly conceived and designed combat shotgun is in the offing. This change of thought has been produced by experiences gained over two world wars, numerous 'small wars' and a great deal of guerrilla activity, but it is still a change not readily accepted by some military minds.

For many forms of combat the shotgun is a weapon beyond comparison. Jungle and trench warfare (and other such fighting where ranges are short and targets fleeting) require a personal weapon that can fire numerous effective projectiles over an area, and this the shotgun does to perfection. At longer ranges the shotgun becomes less efficient, but technology has now reached the stage where shotgun projectiles such as the flechette have much greater useful ranges than simple round shot. As infantry combat ranges seemingly become shorter, the shotgun type of weapon becomes all the more attractive and at long last it has been accepted that in action most soldiers cannot aim their weapons with any great accuracy. Thus their weapons have to do their own aiming by spreading multiple projectiles over an area.

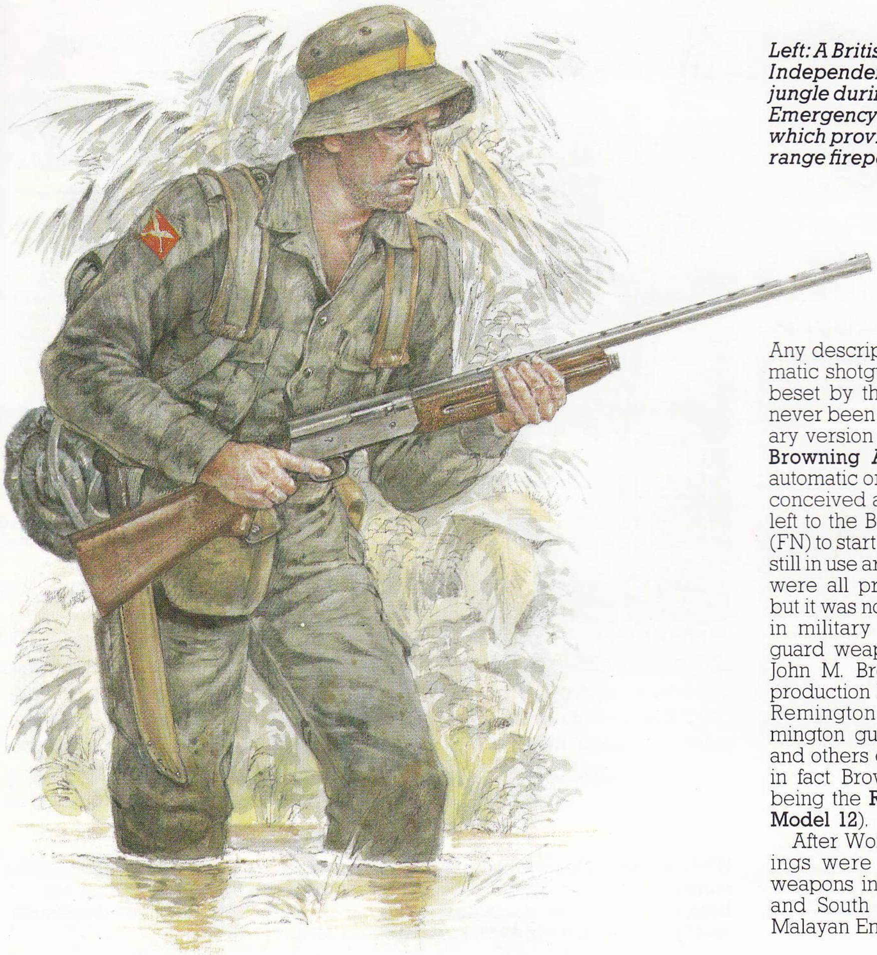
We are witnessing a stage of transition in small-arms design. More and more military planners are realizing that the combat shotgun is necessary, and in this study are contained some of the weapons that point the way ahead. Also included are the many sporting weapons that have indicated the trends that true combat shotguns must inevitably follow. Even a short perusal of the weapons included here will make one wonder why it has taken the shotgun so long to be an accepted weapon of war.

*While shotguns have long been used in combat (and are likely to become ever more useful in that role now that the attention of small-arms designers has been fixed on them), it is in police and paramilitary hands that they have seen most action, as here in Miami in the early 1980s.*

CLEARANCE 16'0"

BELGIUM

## Browning Automatic series



*Left: A British soldier of the 18th Independent Brigade on patrol in the jungle during the Malayan Emergency carries a Browning A5, which provided formidable short-range firepower.*

Any description of the Browning automatic shotguns as combat weapons is beset by the difficulty that there has never been a purpose-produced military version of these designs. The first **Browning Automatic** (actually semi-automatic or self-loading) shotgun was conceived as early as 1898, but it was left to the Belgian Fabrique Nationale (FN) to start production and many guns still in use are Belgian-produced. They were all primarily sporting weapons but it was not long before many ended in military hands, often as security guard weapons or for similar duties. John M. Browning also negotiated a production licence with the American Remington concern and many Remington guns used by the US Army and others during World War II were in fact Browning Automatics (typical being the **Remington Model 11A** and **Model 12**).

After World War II sporting Brownings were widely used as military weapons in such localities as Central and South America, but it took the Malayan Emergency of 1948 to 1960 to make the Browning Automatic an established military weapon. The British army used Greener GP guns and Browning Automatics throughout that long campaign, often (but not always) with the long sporting barrel cut back to as short a length as possible. Most guns used by the British were 12-gauge weapons with five-round magazines and fired commercial heavy shot cartridges.

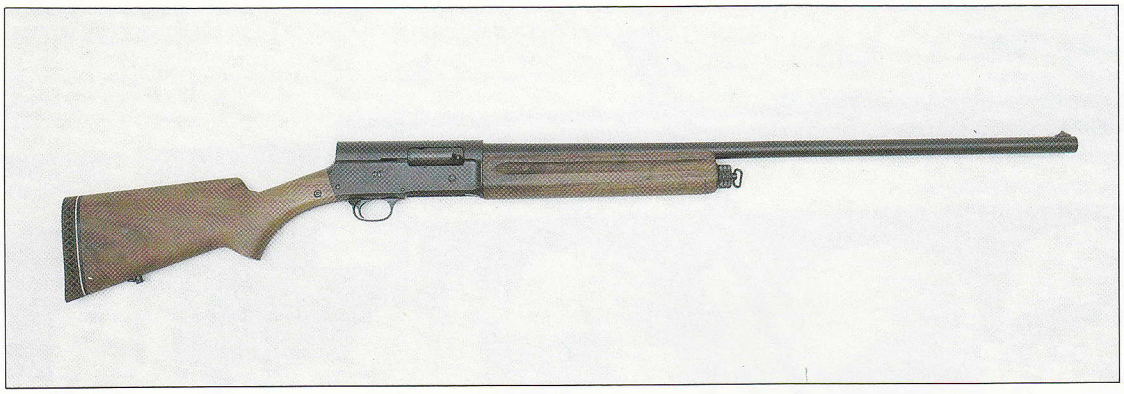
It was not long before the British relearned the old lesson that the automatic shotgun is an almost-perfect weapon for the close-quarter combat of jungle warfare. As an ambush or counter-ambush gun the Browning Automatic was ideal and could be used to fire off five rounds in as few as three seconds. At the time little publicity was given to the combat use of these shotguns (Remington Model 870Rs were also employed) but many soldiers who served in Malaya during the Emergency probably carried a Browning Automatic at some time or another.

After 1960 the British army set aside its Brownings for more conventional weapons, but doubtless some are still retained for 'special purposes'. Despite the type's Malayan popularity soldiers found that the weapon was slow to reload and took some looking after, especially when shortened barrels imposed excessive firing loads on the self-loading components.

Brownings popped up again during the Rhodesian anti-guerrilla/freedom-fighter campaigns, and the gun is still a widely used 'small campaign' weapon. But there is still no sign of a combat version of the Browning Automatic, despite a brief flurry of design activity during the 1960s. 'Military' Browning Automatics continue to be primarily sporting weapons.

### Specification

**Browning Automatic** (standard model)
**Calibre:** 12 gauge
**Weight:** loaded 4.1 kg (9 lb)
**Length:** barrel 711 mm (28 in)
**Feed:** 5-round tubular magazine



*The Browning Automatic shotguns were not produced as dedicated military weapons, but proved tough enough for the rigours of service life. They were useful weapons in terrain which favoured the ambusher; in an emergency they could fire five rounds in three seconds.*

BELGIUM

## FN Riot Shotgun

As its name implies, the **Fabrique Nationale Riot Shotgun** is primarily a police and paramilitary weapon. In design terms it is a relatively unremarkable design: a manual pump-action shotgun with a tubular magazine holding five rounds. FN is no stranger to shotgun design, for it was among the first to produce the many John M. Browning automatic shotgun designs in the 1920s, and ever since that time the company has been in the forefront of world manufacture of these weapons. Many of FN's designs are intended for sporting purposes, but it takes little to transform a sporting shotgun into a law-enforcement weapon and FN has never been slow to undertake the transformation.

The Riot Shotgun first appeared in 1970 and was based on the widely-used FN automatic sporting gun of the period. It was at one time available in three interchangeable barrel lengths. The first models had rear and fore sights, but on later production models these have been removed and the standard barrel length is now 500 mm (19.7 in). Rubber butt pads and sling swivels are fitted as standard.

The main difference between the Riot Shotgun and the FN sporting models is that the riot version is much more rugged than the civilian shotguns. For instance there is a bolt that runs right through the stock to strengthen the component and all metalwork has been 'beefed up' to withstand the rigours of hard use. The metal surfaces have also been specially plated so that they require only a minimum of care and maintenance.

FN even decided to retain the original five-round tubular magazine and has thus never introduced the extension magazines used on many other contemporary paramilitary shotguns, mainly to maintain an overall high degree of reliability. Instead FN decided to retain the simple manual action, each 'pump' ejecting a spent case and

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*Right: Shotgun ammunition comes in a bewildering variety of forms, which different countries unhelpfully divide into different categories. On the left is a conventional birdshot round for the FN shotgun; in the centre a flechette round; and on the right a brenecke rifled slug.*

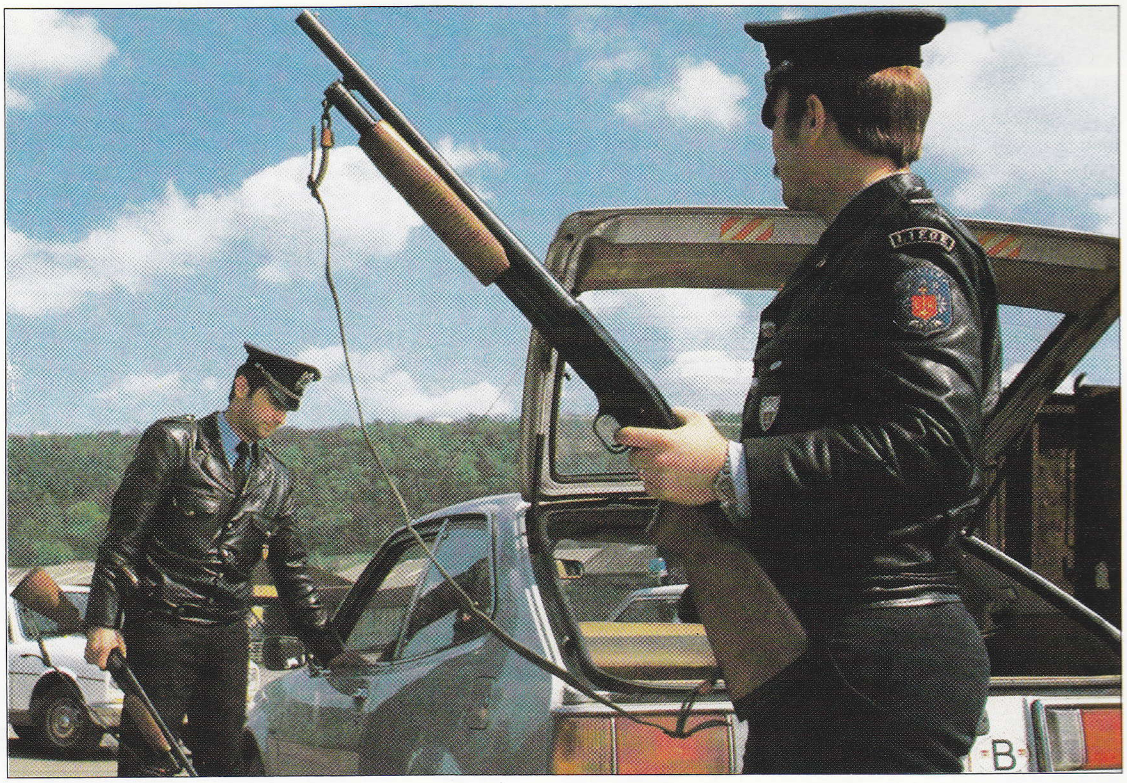
### FN Riot Shotgun (continued)

loading another. At one time there was an attempt to introduce a fully-automatic version of the Riot Shotgun, but this model was produced as a prototype only and had a six-round magazine.

FN has produced its Riot Shotgun in a form suitable for firing full-calibre slugs, but the majority of guns in use are used to fire 12-gauge shot only: in fact there has never been a Riot Shotgun in any other calibre. The type is used by the Belgian police and some paramilitary units, and it has been sold to some overseas police forces. It is a very reliable and rugged weapon and is more than adequate for its intended paramilitary role.

### Specification

**FN Riot Shotgun**
**Calibre:** 12 gauge
**Weight:** 2.95 kg (6.5 lb)
**Lengths:** overall 970 mm (38.19 in); barrel 500 mm (19.7 in)
**Feed:** 5-round tubular magazine



*Pump-action shotguns like the FN are used by police forces all over the world. They are reliable weapons with high short-range hit probability, and do not produce stray bullets which are still lethal to bystanders hundreds of yards away.*

ITALY

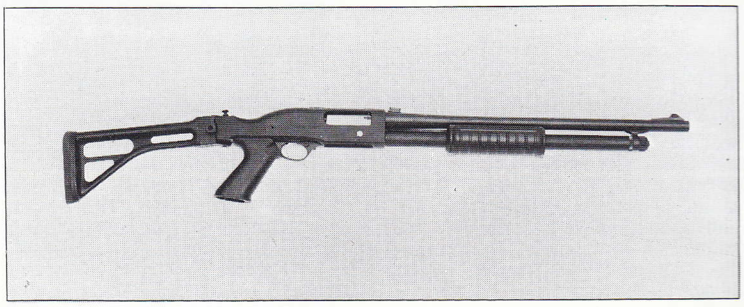
## Beretta RS200 and RS202P

Armi Beretta SpA is one of the most respected names in small-arms design and manufacture, and is no stranger to shotgun production. The company followed the move towards manufacturing robust shotguns for police and paramilitary purposes and introduced its 12-gauge **Beretta RS200 (Police Model)** manual pump-action shotgun. As with all other Beretta weapons, this is a well-designed and superbly-finished weapon that has been suitably strengthened for the rough handling it can expect.

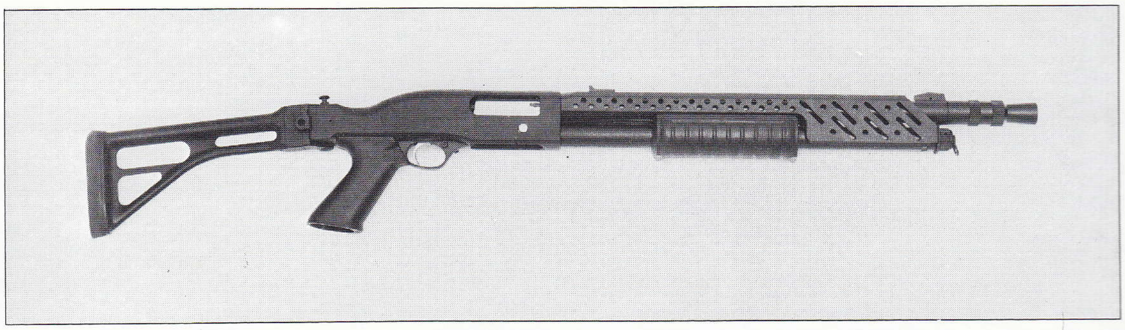
Beretta introduced no innovations with the RS200 other than a special safety sliding-block breech locking device that prevents firing before locking is complete. The hammer also has a special safety lug feature and there is a bolt catch that enables a cartridge to be safely removed from the chamber without having to fire it. Another feature of the RS200 is that it can be used to fire small tear gas cartridges (to a range of about 100 m/109 yards) as well as the usual shot or slug loadings.

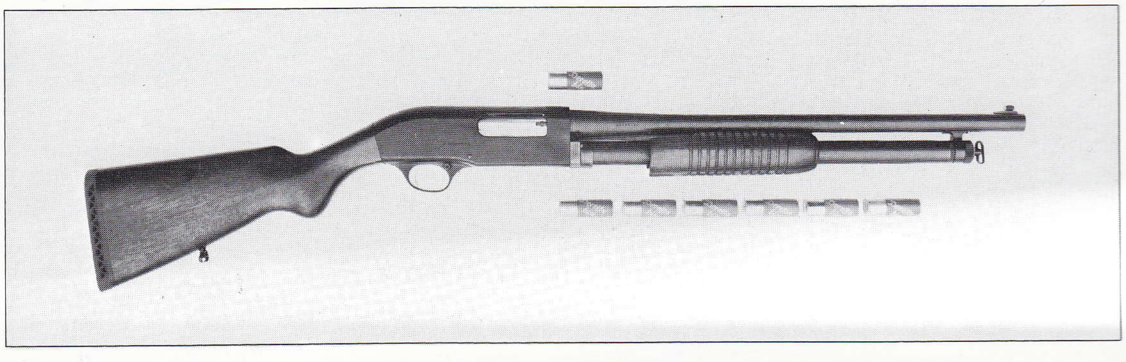
Though now out of production, the RS200 is used by many police and other forces. It was replaced by the **RS202P**, which differs mainly in the loading procedure, which was made much easier, and in slight variations to the bolt mechanism. With the introduction of the RS202P came two variants. The first was introduced to reduce the overall length of the weapon for stowage and handling: this **RS202-M1** has a skeleton-type folding butt that can be stowed alongside the left-hand side of the body. The second variant carries over this folding butt but in addition has a variable choke device over the muzzle (to vary the spread of shot) and a perforated barrel jacket to make handling easier: it is impossible to hold the barrel once it gets hot. To assist rapid aiming special sights have been fitted to this second variant, which is

*Right: The RS202-M1 is the folding stock version of the successful RS 202P 12-gauge shotgun. Loading is marginally easier than on the original weapon and the bolt mechanism has been altered.*



*Below: This RS202-M2 has a perforated barrel jacket, which makes for easier handling of a gun with a hot barrel from repeated firing. Beretta provide a variable choke unit to give a choice of spread patterns.*



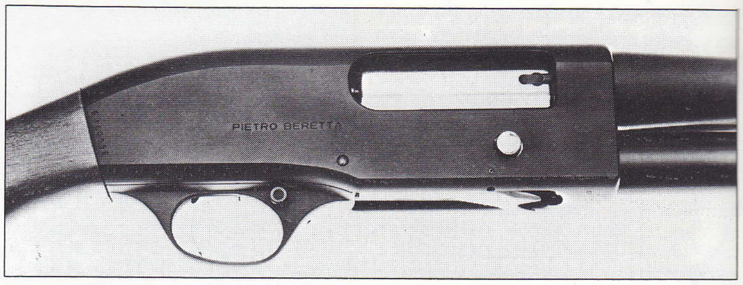


*The original RS200 has six 12-gauge shells which it carries in the magazine, plus a seventh which can be chambered. The inertia-operated firing pin on the RS200 prevents the gun from firing unless the bolt is fully locked.*

known as the **RS202P-M2**.

The RS202P shotguns have followed the overall acceptance of the RS200 but sales have not been remarkable, mainly because they seem to lack the aesthetic appeal of some of the more modern designs. The RS200 has for some time been out of production and the RS202P is apparently being produced to order only. For all this they are both reliable and well-made guns that seem set to remain in use for many years to come.

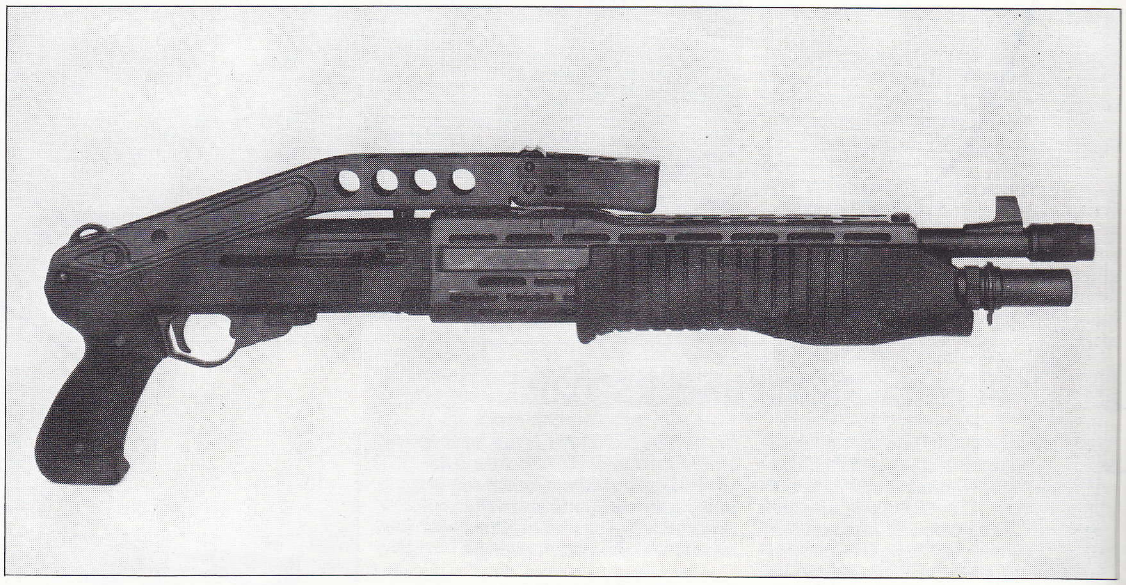
### Specification
**RS200**
**Calibre:** 12 gauge
**Weight:** about 3 kg (6.6 lb)
**Lengths:** overall 1030 mm (40.55 in); barrel 520 mm (20.47 in)
**Feed:** 5- to 6-round magazine



*This close-up of the receiver of the Beretta RS200 shows its loading gate (bottom) and shiny ejection port. The Beretta has several safety devices.*

ITALY

## SPAS Model 12



The **SPAS Model 12** (SPAS standing for Special-Purpose Automatic Shotgun) is one of the most interesting and influential shotgun designs to appear for a long time. It was designed, and is produced by, Luigi Franchi SpA, a firm which has produced sporting shotguns for many years. When the demand for a combat shot-firing weapon became apparent, the Franchi team decided to design a new weapon using a novel approach: it decided to build a true combat weapon, not a conversion of an existing sporting model, and the result is the **SPAS Model 11**.

Like its later version, the Model 12, the Model 11 is a formidable piece of kit. It is a long and heavy weapon that is so robust it can be used as a club. It has a distinctive appearance: there is no orthodox butt, but rather a fixed skeleton metal butt (Model 11) or a folding stock (Model 12). The mechanism at first sight appears to be a bulky manual pump action, but is in fact a semi-automatic or fully automatic system; the firing mode can be selected by sliding the fore-grip backwards and forwards. The tubular magazine under the short barrel can accommodate up to seven rounds. These rounds can vary from light bird shot to heavy metal slugs that can penetrate steel plate.

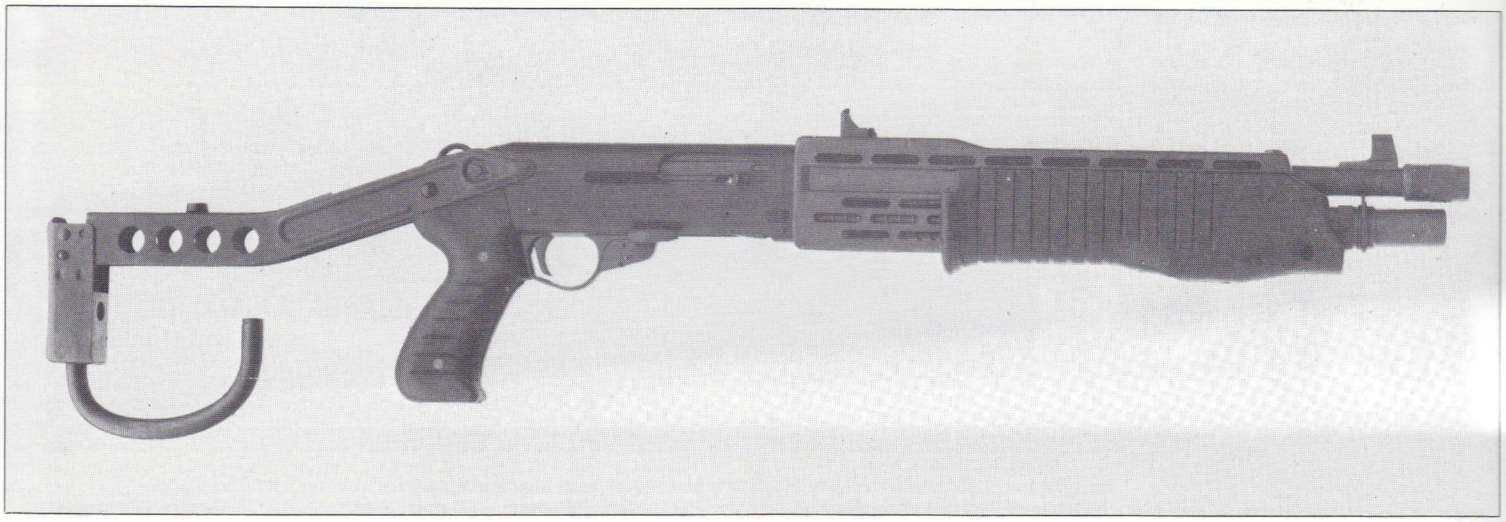
The rest of the SPAS is well provided with novel features. The variant most likely to be encountered is the Model 12, which has a bulky front handguard and a folding stock. The stock has a piece of curved metal under the 'butt plate' that loops around the forearm and allows the weapon to be held and fired in one hand although anyone firing the weapon in such a way will soon learn what a handful the Model 12 can be. There is a pistol grip, the muzzle can be fitted with a shot-spreading choke device and another muzzle attachment is a grenade launcher. Small tear gas and CS projectiles can also be fired. Sights are provided but the spread of shot from a normal 12-gauge cartridge is such that at 40 m (47 yards) the shot pellets cover a circle with a diameter of 900 mm (35.4 in), so aiming is not terribly important at such ranges.

The SPAS is a true combat shotgun and in the hands of a fully-trained operative can be a formidable weapon. The Model 12 has been sold to several military and paramilitary armed forces, and some have appeared on the civil market. Many of these have been snapped up by shotgun enthusiasts, but in many countries the short barrel breaks legal regulations and so needs a barrel extension.

### Specification
**SPAS Model 12**
**Calibre:** 12 gauge
**Weight:** 4.2 kg (9.26 lb)
**Lengths:** overall (butt extended) 930 mm (36.6 in) or (butt folded) 710 mm (27.95 in); barrel 460 mm (18.11 in)
**Feed:** 7-round tubular magazine
**Rate of fire:** automatic, cyclic 240 rpm

*Many military and police shotguns are modified sporting weapons, but Luigi Franchi SpA have designed the SPAS 11 and 12 as combat weapons from the outset. This formidable semi-automatic shotgun can even be set to full automatic, firing four rounds a second.*

*With its phosphated black external metal parts and skeleton butt, the Franchi looks every inch a combat weapon while retaining the aesthetic appeal of Italian gun designs. At 40 m the spread of shot reaches a diameter of 0.9 m.*



# Towards the Ultimate Weapon

***The introduction of the Franchi SPAS 12 revolutionized the shotgun world. Here at last was a military shotgun designed as such from the outset, not another civilian weapon with minor alterations. But this remarkable weapon is now being developed further, with box magazines and 'bullpup' designs undergoing trials.***

*One of the earliest combat shotguns designed as such which may have influenced Franchi was the High Standard Model 10B. This particular weapon was acquired by the Argentine navy, doubtless for use in the vicious internal struggle which was to lead to thousands 'disappearing' under the juntas.*

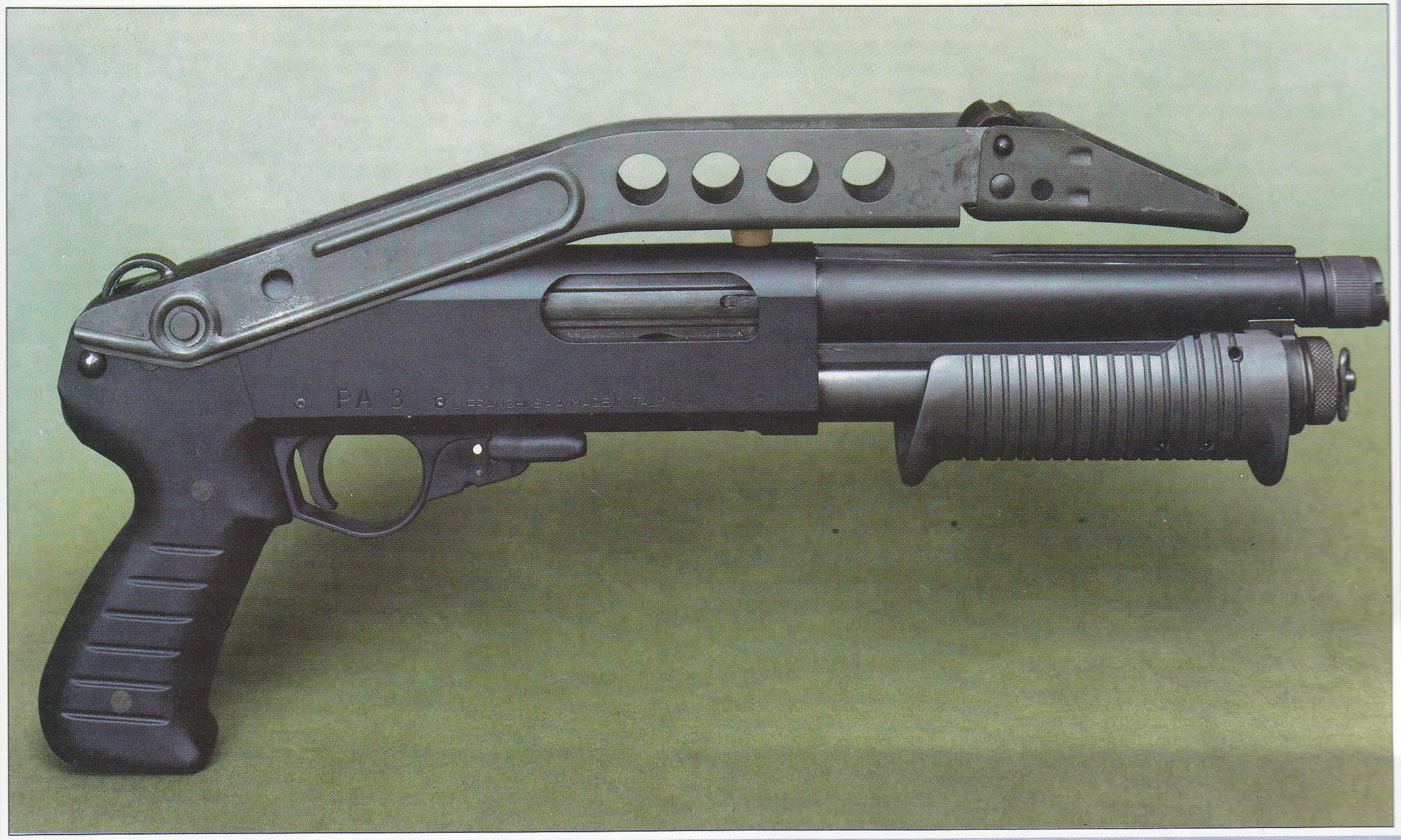
When Luigi Franchi SpA started the development of what became the SPAS Model 12, it probably had little idea of what impact the product would make on the combat shotgun scene. The company no doubt hoped for an enthusiastic response, but the result was a virtual revolution. The SPAS rendered nearly all other combat shotgun designs obsolete overnight by its very combination of pump-action or semi-automatic fire selection, its relatively high ammunition capacity (seven rounds plus a potential extra in the chamber), its possible single-handed operation and its overall rugged construction. In all aspects the SPAS Model 12 was one of the very first true combat shotguns, not a conversion or 'breathed-on' version of an existing sporting weapon.

One aspect of the SPAS Models 11 and 12 was their ability to switch from single-shot pump action to gas-operated automatic (self-loading) fire. The idea was that for most applications the slide-action mechanism would be more than adequate but if the need for rapid fire suddenly arose (as it often seems to in combat or internal security operations) more rapid fire could be produced by simply altering the position of the upper part of the forestock. The SPAS shotguns are designed to fire a wide range of ammunition from the riot-control munitions or light birdshot used to disperse crowds relatively harmlessly right up to the heavy shot and slug loadings used for really serious combat.

Experience with the Models 11 and 12 led to some rethinking by the Franchi design team as some aspects of the SPAS had provided food for thought. One was simply the mass of the weapon, for the SPAS Model 12 is a bit of a brute to handle. It is certainly an extremely rugged gun, but it is also heavy and too lengthy for comfort, especially when it has to be carried for extended periods. It is also rather complicated to handle and what really matters in combat is that its tubular magazine takes time to reload. So, good as the SPAS Model 11 and 12 are, in the eyes of many it was back to the drawing board.

One of the first rethinks was along the lines of a 'bullpup' configuration with a detachable box magazine behind the pistol group. This layout makes any weapon much shorter (and thus handier to carry and stow) but it has one drawback, and that is in connection with spent case ejection. On a conventional rifle layout the spent cartridge case ejection port is far enough forward not to bother left-handed firers, but on a bullpup weapon the ejection port is so far back that any spent case will usually strike the left-handed firer in the side of the face. The only way to overcome this is to produce special left-handed versions and for many procurement agencies that is not on. Thus the Franchi bullpup project passed away, but not before one ingenious design feature was introduced. This was the use of 'coded' box magazines for various types of ammunition. The Franchi designers wanted to use a fully-automatic fire mode on their new weapon but they realized that attempting to fire heavy shot or slug loadings on fully-automatic could result in unmanageable recoil forces. Thus the heavy loads would be loaded only into special box magazines with an operating cut-out in the side. As the magazine was loaded the cut-out would operate a lever in the gas system that would prevent full automatic fire and allow semi-automatic only. However, this idea was not carried over to the next weapon, the SPAS-14, which was a rework of the SPAS Model 12 to accommodate detachable box magazines to speed reloading. This in turn led to the SPAS-15.

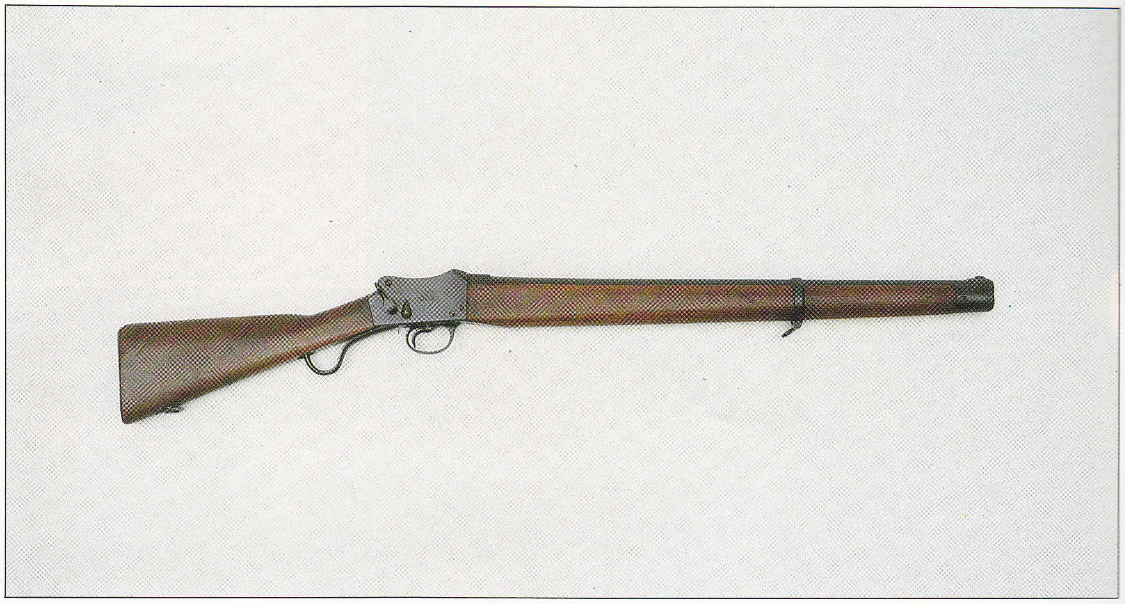
In appearance the 12-gauge SPAS-15 is fairly conventional but it does have a 10-round box magazine. The bullpup configuration has been abandoned, but to keep the weapon short and handy there is a folding skeleton stock. The overall operation of the weapon is much simpler and more straightforward than on the earlier models and yet it is possible to use the SPAS-15 as a pump-action or as a gas-operated semi-automatic – a full automatic mode has not been integrated for the simple reason that the Franchi designers see no way the resultant recoil forces can be kept under practical control. The SPAS-15 can fire a wide range of ammunition types, including all the usual shot and slug loads plus a range of rubber projectiles and other riot-control munitions.



*Franchi's PA 3, a compact model of the SPAS series, exemplifies most of the features of the modern combat shotgun. Short, rugged and easy to use in confined spaces, the shotgun is a superb close-range weapon.*

UK

# Webley Greener GP



*Chambering a round into the Webley Greener reminds one of Rorkes Drift; it is a single-shot weapon employing a falling block mechanism similar to that on the Martini-Henry. In police and paramilitary hands since the turn of the century, it is a sturdy if cumbersome weapon.*

The **Webley Greener GP** shotgun is hardly a modern weapon, for the first of the type appeared around the turn of the century. The series is still in use and is included here as an example of shotgun designs from an earlier era, although many of them have been replaced by more modern designs with semi-automatic mechanisms and multi-round magazines.

The Greener GP is a single-shot weapon that has to be hand-loaded for every shot. In place of the usual break-open shotgun mechanism the Greener uses a variation of the Martini falling block action that was in use before the Lee-Enfield bolt-action rifle was accepted for British service in the 1890s. On this action a lever behind the trigger is pulled down to open the falling block. This ejects any spent cartridge and a fresh cartridge is inserted along a groove to guide it into the magazine. Lifting the lever closes the block and cocks the weapon ready to fire. This action is simple to use and can be operated quite rapidly for ejection and loading, but its main attributes are its strength, simplicity and safety. It rarely wears out and keeps working reliably. When allied to a weapon as strong as the Greener, this operating system produces a shotgun that is ideal for general police and other such uses, and this goes a long way to explain why Greeners can still be encountered.

There have been three main marks of Greener GP. Two, the **GP Mk I** and **GP Mk III**, are now rarely encountered for they were chambered for specially-loaded police cartridges that are now rarely found except in collector's hands. The **GP Mk II** was (and still is) chambered for the orthodox 12-gauge cartridge. The Greener GP may be found with barrels of varying lengths, including 710 mm (27.95 in), 760 mm (29.9 in), 810 mm (31.89 in) and 860 mm (33.86 in). These make the Greener GP acceptable for police use but in the past the overall length has proved too long for combat use. Thus when combat shotguns have been required in a hurry, as happened during the Malayan Emergency of the late 1940s, Greeners were seized in vices to have their barrels considerably shortened by hacksaws. In this form they were used for some time, but these sawn-off weapons are no longer official (nor were they at the time) and will not be found in police or other official hands.

Greener GPs are still used by some overseas police and paramilitary forces and there is no sign yet that they will wear out in the near future.

### Specification

**Webley Greener GP Mk II** (710-mm barrel)

**Calibre:** 12 gauge
**Weight:** 2.95 kg
**Lengths:** overall 1130 mm (44.48 in); barrel 710 mm (27.95 in)
**Feed:** single shot

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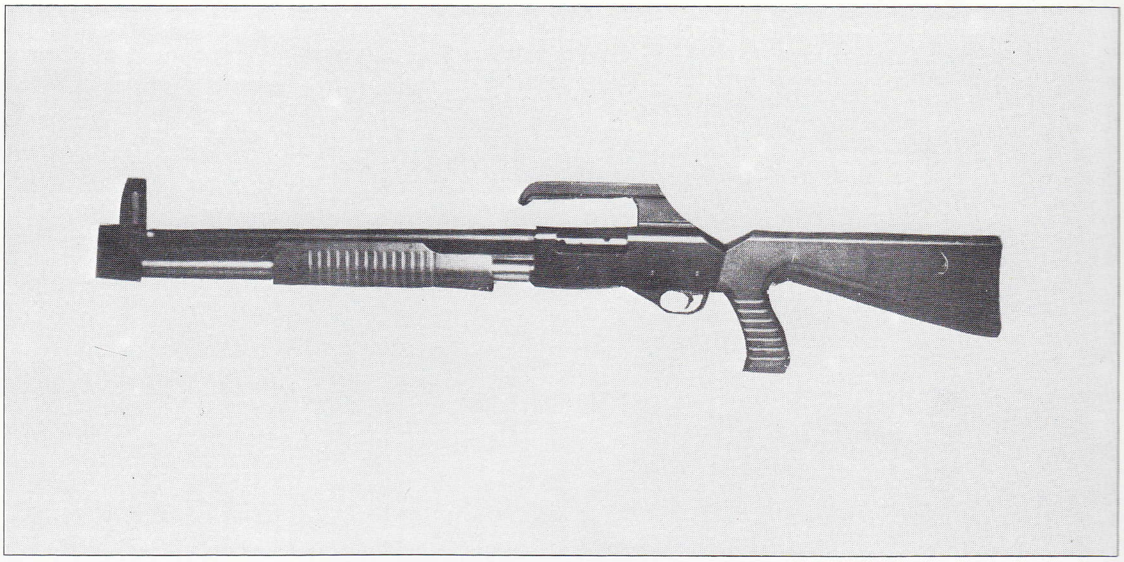
UK

# Viking Arms SOS



*The Viking Arms SOS shotgun is representative of the trend towards militarization which has swept through the shotgun world in the wake of the Franchi. Apart from the M16-style carrying handle-cum-sight housing, it is otherwise a conventional 12-gauge shotgun.*

The pace of small arms design in recent years has been such that the relatively recent 'all-in-line' assault rifle design has become so established that a whole generation of recruits has been trained with them and many have never fired a conventionally-stocked rifle or shotgun. Thus when many soldiers are introduced to orthodox weapons such as the usual run of combat shotguns they are somewhat at a loss as to how to aim and handle them. With this in mind Viking Arms Limited of Harrogate has devised the **Viking Arms SOS** shotgun which is so arranged that it has the now accepted 'in-line' layout: the butt, action and barrel are all in one straight line with the rear sights raised above the receiver and the fore sight raised on a post over the muzzle.

The SOS is in fact a conventional manual pump-action 12-gauge shotgun stocked to produce the in-line configuration. It has a wooden butt and a pistol grip in exactly the same way as a modern assault rifle, and the simple sights are raised above the receiver in such a manner that the rear sight housing can be used as a carrying handle for the weapon, again exactly as on an established service rifle such as the American M16 series. Thus a newly-trained soldier encountering the SOS for the first time will be quite familiar with its general handling. His reaction to the firing recoil after handling a virtually recoilless 5.56-mm (0.219-in) rifle is another matter, even though the in-line configuration helps to keep recoil forces under control and muzzle 'jump' is minimized.

The SOS uses a manual slide pump action allied to a tubular magazine holding seven rounds. These may be of the shot or slug variety.

Where the SOS appears to have the edge on many of its contemporaries is that although it is well made and robust it is relatively inexpensive. It is also easy to maintain. The SOS has therefore appealed to many police forces who have to operate on limited budgets and some sales have been made to forces in Europe and elsewhere. Other sales have been made to civilian shotgun enthusiasts and to satisfy their more orthodox shooting requirements it is possible that a butt stock of more conventional form may be produced for the SOS.

### Specification

**SOS**

**Calibre:** 12 gauge
**Weight:** 3.37 kg (7.43 lb)
**Length:** barrel 616 mm (24.25 in)
**Feed:** 7-round tubular magazine

# Combat Scatterguns in Action

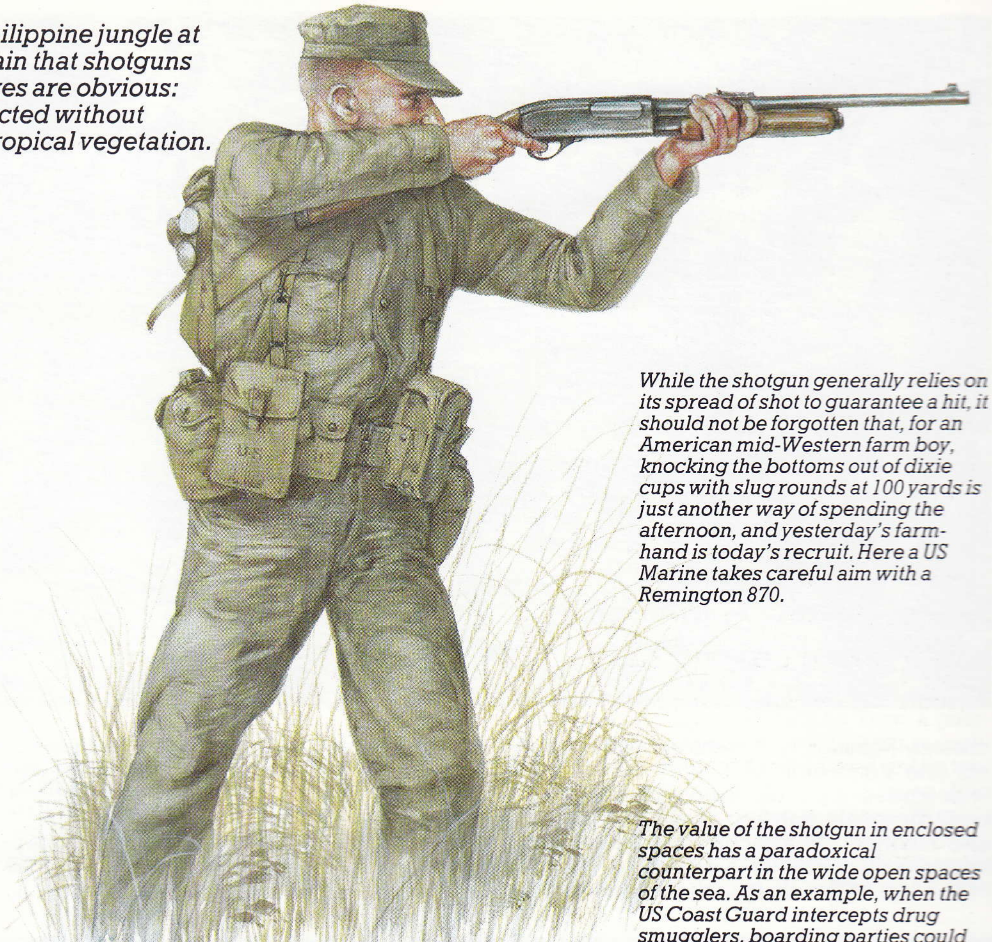
*Shotguns first saw military service in the Philippine jungle at the turn of the century, and it is in such terrain that shotguns have been most widely used. The advantages are obvious: massive short-range firepower can be directed without careful aiming to hit a target obscured by tropical vegetation.*

The first use of the shotgun in 20th century counter-insurgency campaigns in Asia occurred during the Moro Insurrection in the Philippines, starting in 1900. The US Army found itself fighting tough Moslem guerrillas, frequently so drugged that they did not even feel the impact of the soldier's Krag-Jorgensen rifles. The fighting on the trails of Samar and Mindanao was a series of fleeting encounters, and the US Army needed a weapon that allowed quick reaction: the shotgun was the obvious answer.

The US military adopted the 12-gauge five-shot Winchester M1897 slide (pump) action shotgun, with its single barrel shortened to 50.8 cm (20 in) to make it handier in close terrain and to keep it from catching on vines and branches. The shotgun proved a popular and effective weapon and a useful supplement to the service rifles.

Given the shotgun's success in the Philippines, it was not surprising that the US Army again re-adopted the weapon when the USA entered World War I. The M1897 Winchester was adopted as the standard 'trench broom' modified so that it could mount a bayonet. It was supplemented by the 12-gauge five-shot Remington M10. About 40,000 shotguns were procured, many seeing action in France.

World War II again brought the US Army back to the jungle, this time in the Pacific. Again the service reached for the Winchester M1897. It was further modified, with a take-down feature, a Parkerized finish, and a stronger stock. Supplemented by more recent Win-



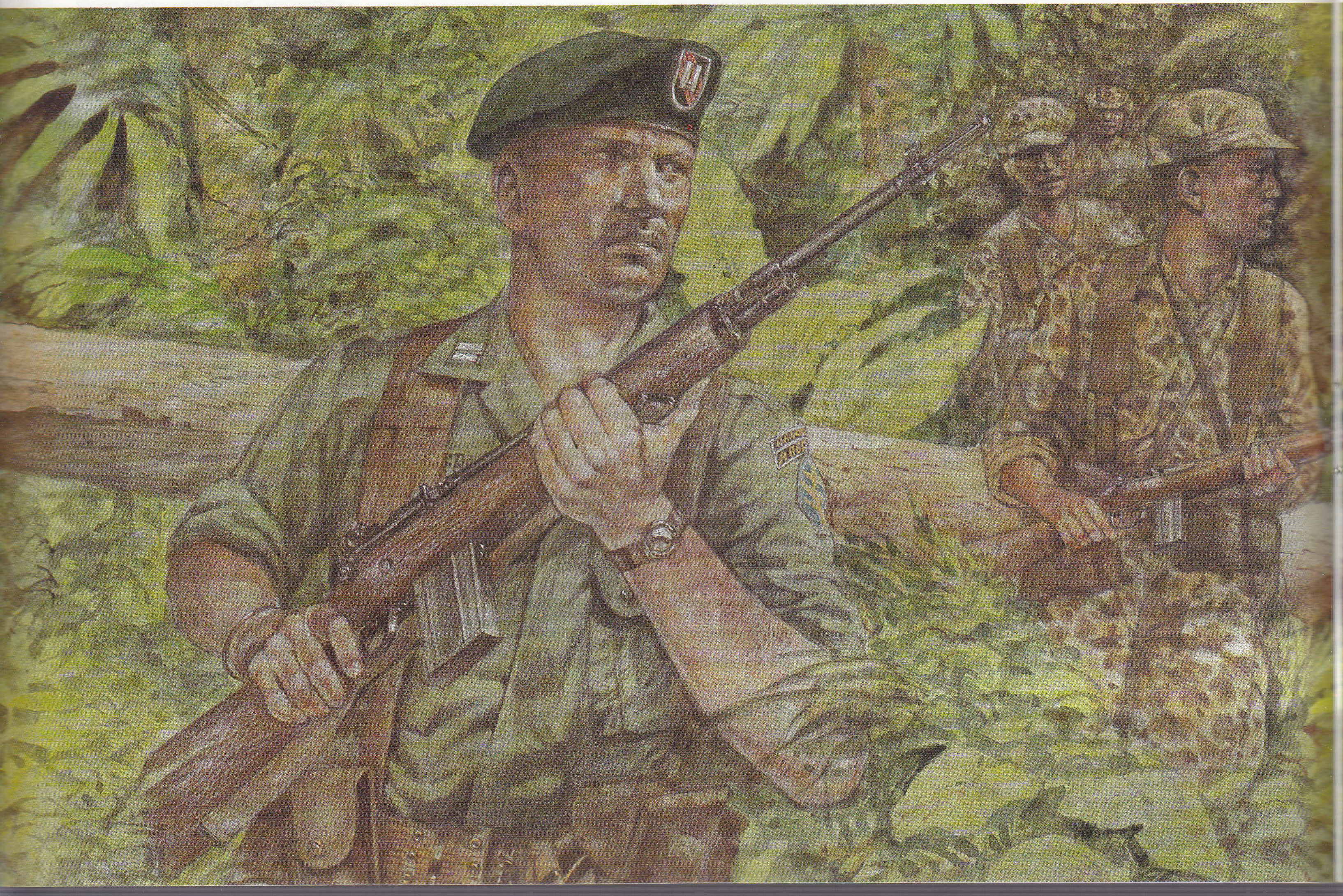
*While the shotgun generally relies on its spread of shot to guarantee a hit, it should not be forgotten that, for an American mid-Western farm boy, knocking the bottoms out of dixie cups with slug rounds at 100 yards is just another way of spending the afternoon, and yesterday's farm-hand is today's recruit. Here a US Marine takes careful aim with a Remington 870.*

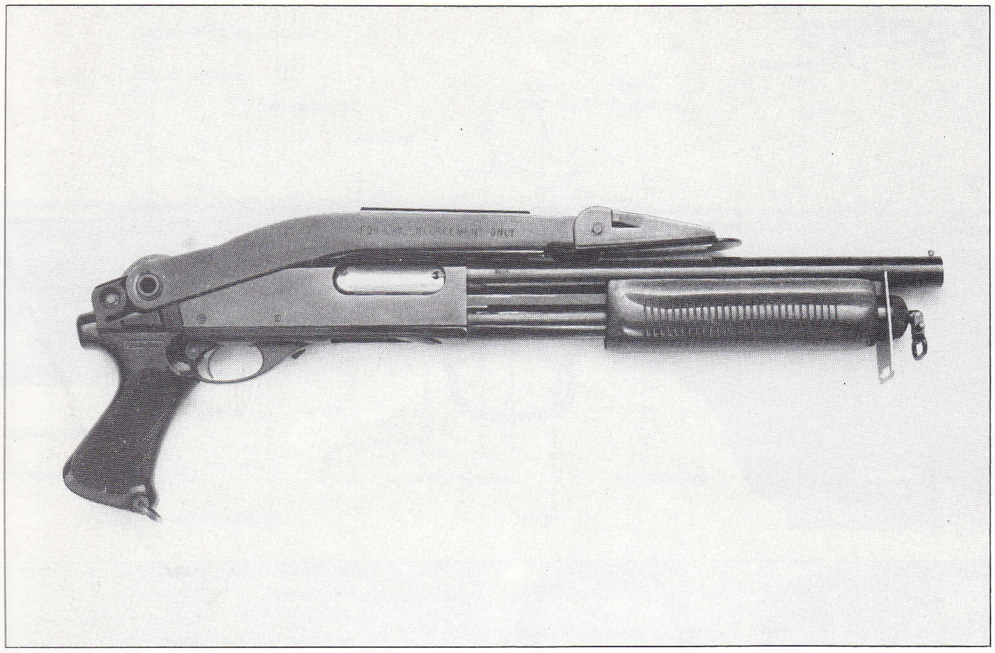
*The value of the shotgun in enclosed spaces has a paradoxical counterpart in the wide open spaces of the sea. As an example, when the US Coast Guard intercepts drug smugglers, boarding parties could well have to defend themselves at close range once aboard a suspect boat.*

*US forces used shotguns in small numbers during the Pacific campaign. The density of this jungle on Guadalcanal gives an idea of why weapons with a range of under 100 yards were used effectively.*

chester, Remington, Stevens and Ithaca models (the Remington M11 'riot gun' also saw widespread use), US Army shotguns were used for jungle fighting, guarding prisoners, and clearing out strongpoints. These same weapons were also used in Korea.

The use of the shotgun then spread to the British army and its Commonwealth allies. The British army had used shotguns in Burma during World War II and in other campaigns, although never in the same numbers as the US Army. In 1948, when the Communist insurgency started in Malaya, the British found that the most troublesome guerrillas were those who used not the British-made Lee Enfield rifles and Sten sub-machine guns that had been in-





*Shotguns, when suitably modified, make fine VIP protection weapons. The Presidential protection unit of the US secret service uses these modified 12-gauge Remington Model 870s.*

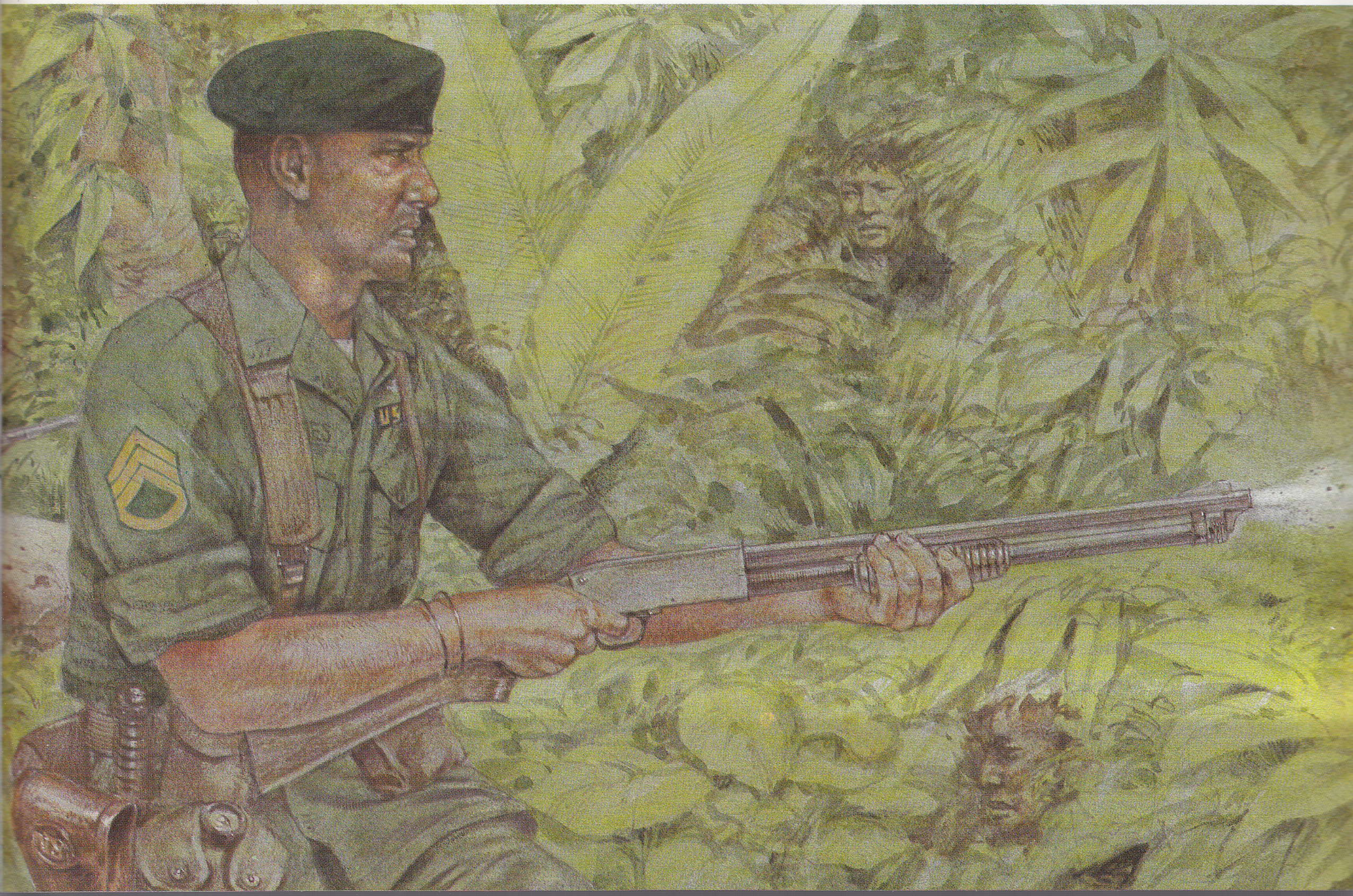
serted into Malaya for use against the Japanese, but those who used shotguns. The same advantages that led the Americans to adopt the shotgun in the Philippines (plus the fact that, as a local weapon, many guerrillas were familiar with its use) brought home to the British that the shotgun would be an effective weapon to adopt in the jungle.

The Special Air Service, re-formed as specialized counter-insurgency infantry in Malaya, became the foremost users of shotguns in the British forces. A 1952 British study showed that in the conditions of jungle war, a shotgun had a greater chance of hitting a fleeting target than any other infantry weapon. After a great deal of experimentation and use of field expedients, the British standardized the Browning A5 semi-automatic shotgun. The British preferred a semi-automatic design because it offered a rapid second-shot capability.

The instant-reaction capability of the shotgun appealed to the SAS. Sergeant Bob Turnbull of the SAS tracked down Ah Tuck, a guerrilla leader who always kept his Sten gun cocked and loaded. Hunter and hunted finally met in a 'quick draw' situation that was more Wild West than Far East. At a range of some 18 m (20 yards) Ah Tuck never got a round off in his last showdown. Turnbull showed the effectiveness of the shotgun in another encounter on a jungle

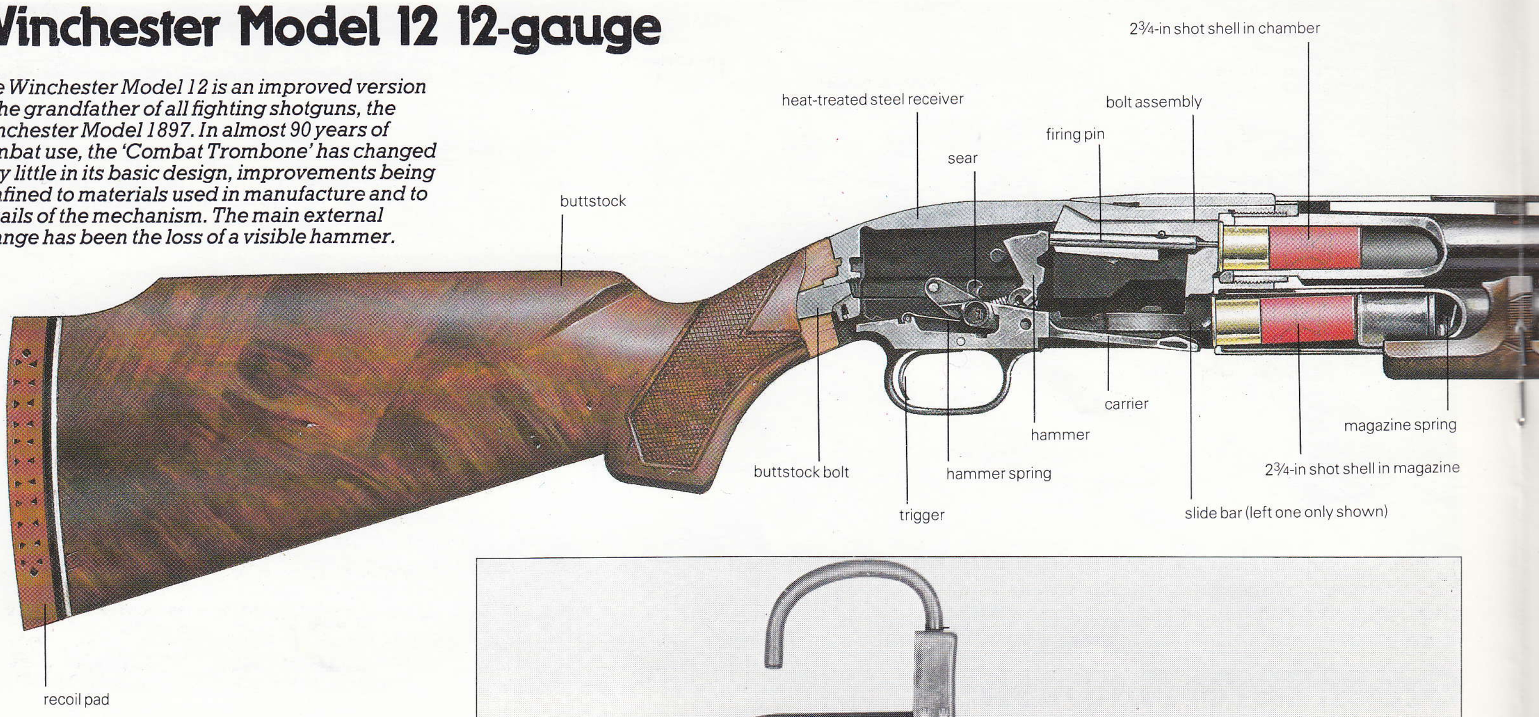
## Green Beret Ambush

A staff sergeant of the Green Berets opens fire on Viet Cong ambushers with an Ithaca 37 12-gauge shotgun while leading a Montagnard patrol in the Central Highlands of South Vietnam, 1964. His captain holds an M14 rifle and the tribal soldiers following sport M1 carbines which are better suited to their stature. Note the wrist bands worn by the Special Forces, which were ceremonially presented by Montagnard sorcerers to bind these American advisers to the tribe. US experience revealed No. 4 shot to have the right balance of spread and penetration for close combat in tropical jungle.



# Winchester Model 12 12-gauge

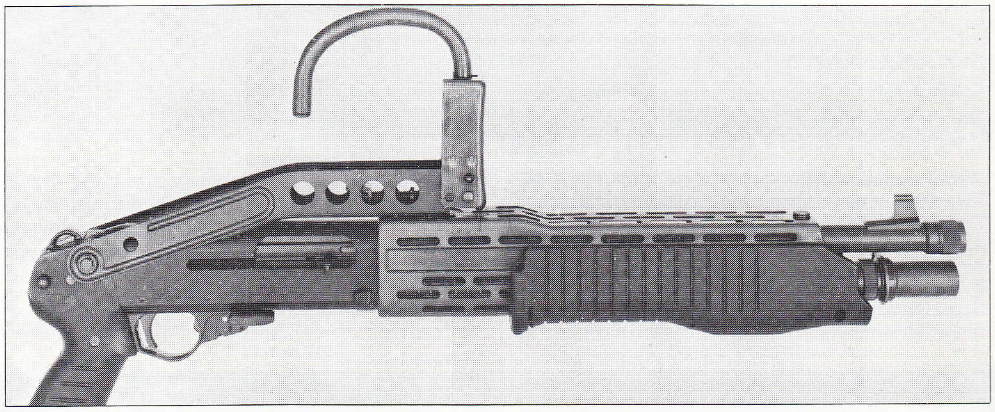
*The Winchester Model 12 is an improved version of the grandfather of all fighting shotguns, the Winchester Model 1897. In almost 90 years of combat use, the 'Combat Trombone' has changed very little in its basic design, improvements being confined to materials used in manufacture and to details of the mechanism. The main external change has been the loss of a visible hammer.*


2¾-in shot shell in chamber
heat-treated steel receiver
bolt assembly
firing pin
sear
buttstock
carrier
magazine spring
hammer
buttstock bolt
hammer spring
2¾-in shot shell in magazine
trigger
slide bar (left one only shown)
recoil pad

track, dropping a guerrilla with his shotgun while the officer next to him was still slipping his safety catch.

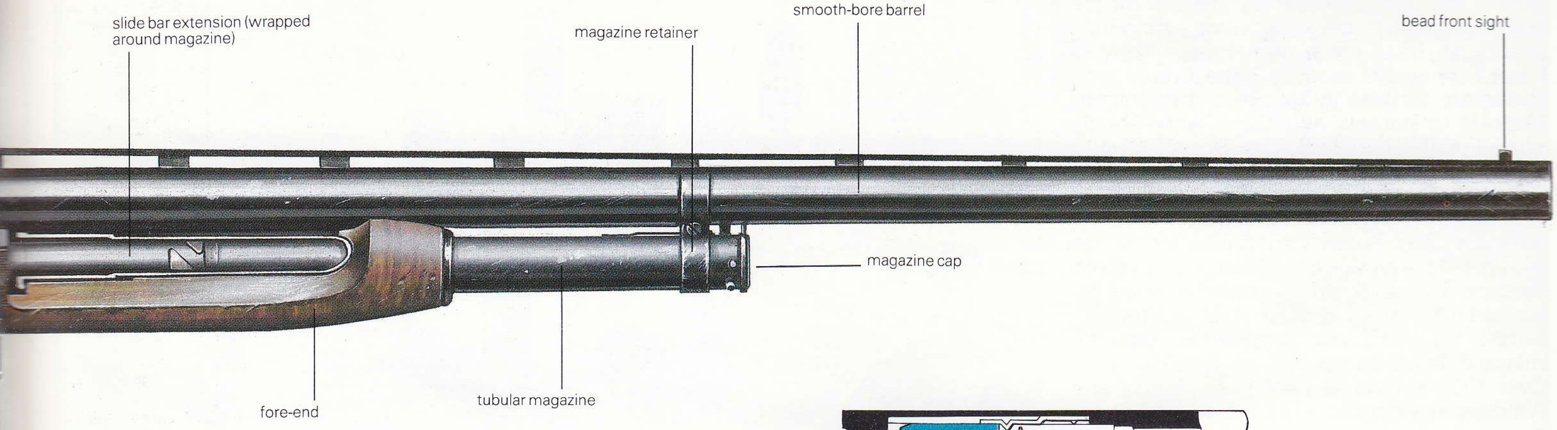
The British 12-gauge rounds used in Malaya were loaded with nine buckshot. The British found that although the full force of a shell was extremely effective, guerrillas hit by just one shot were incapacitated. He would then have to be carried by his comrades, leaving a trail that could be followed and making the group abandon its mission.

The American involvement in Vietnam saw the most widespread use of shotguns in any modern conflict. The US Marines started issuing them in 1965. Unlike the British, who



*Above: In complete contrast to the old Winchester, the Italian-made Franchi SPAS 12 is as up-to-date as they come. The hook on the folding butt is designed to wrap round the forearm while firing the gun one-handed (although even with this support it is quite a handful!).*

*Below: First used in combat against Moro tribesmen in the Philippines, the Winchester Model 1897 soon found adherents world-wide. This particular weapon was acquired by the Royal Irish Constabulary, and may well have been in use during the 1916 Easter Rising.*



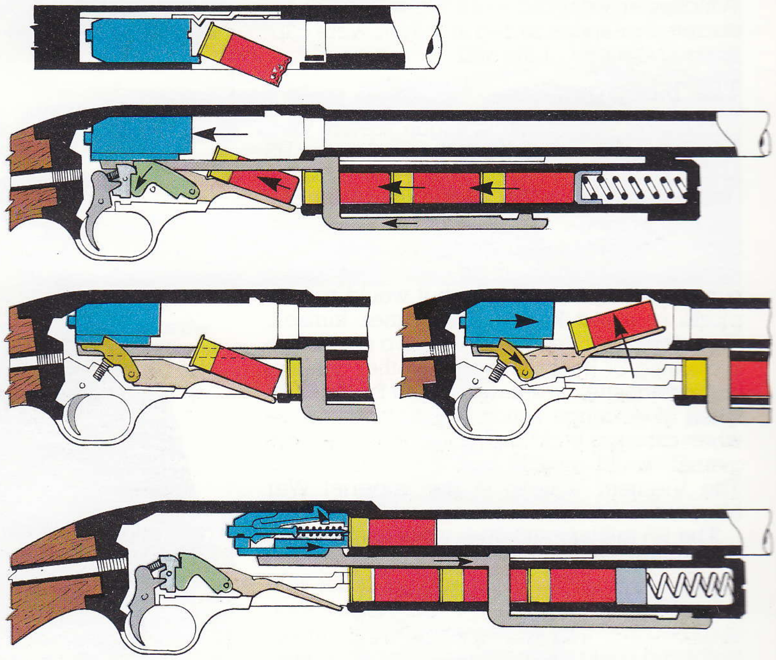
preferred semi-automatic shotguns, the Americans stayed with the pump-action types they had used since 1900. While this was reportedly because they were considered more reliable when dirty than semi-automatic weapons, the fact that Americans were used to pump-action shotguns and that the military had always used them certainly played a role. The favourite military shotgun was the Ithaca M37. If the trigger was held back, it would fire as fast as you could work the pump action. The other standard military shotgun, the Remington 870, lacked this feature. the Remington M10 shotgun and M11 'riot gun' were also used, along with the Winchester M1897 and M1912. While excellent weapons, the older Winchester designs were considered too delicate for Vietnam conditions.

## Ammunition shortcomings

The ammunition of choice, as in Malaya, was buckshot. However, the terrain in the area of South Vietnam where the US Marines were deployed was not jungle. Where there were few engagements at longer than 69-m (75-yard) range in Malaya, the US Marines found themselves firing at targets farther away than those the British would have had to hit in Malaya. While the buckshot shells could easily kill at 27 m (30 yards) and wound at 55 m (60 yards), the spread pattern made it possible to miss a man-size target at anything more than point-blank range.

One attempt to make US shotguns more lethal was the flechette load for shotgun shells. Finned 25.4-mm (1-in) flechette (penetrating projectiles with a low mass, but high velocity) were introduced to Vietnam as fillings for the 'beehive' artillery shells intended for self-defence use by howitzers in danger of being overrun by massed infantry attacks. Flechettes, packed into shotgun shells, had a velocity of 610 m (2,000 ft) per second and could penetrate a flak jacket at 437 m (400 yards). What they could not penetrate was undergrowth, so dense bush would shield a target from a flechette shell.

Shotguns were also useful for irregular



**1** Pumping the slide disengages the bolt, which also claws out the cartridge in the chamber. Winchester have utilized the force of the recoil to make this a particularly smooth action.

**2** When the slide is fully back, the shell carrier drops, unblocking the mouth of the tubular magazine. A shell is fed into the carrier, while the old shell is ejected from the ejection port.

**3** Pushing the slide forwards raises the shell carrier, simultaneously closing the magazine and feeding the fresh shell into the chamber. When fully forward, the bolt rotates, locking in place with four lugs.

*Modern combat shotguns have until recently been conversions of sporting or police weapons. As such they are usually available in a variety of styles, and the Mossberg 500 family shown here is fairly typical. Variations include finish, magazine size and sights (rifle sights indicating choked barrels).*

troops. Even those without much marksmanship training or fire discipline can at least point a shotgun at the enemy and fire. At the range of most jungle encounters, something should hit. Most Asian farmers are likely to know how to use shotguns. The British used aboriginal trackers in Malaya and Iban tribal trackers in Borneo, and these were mainly armed with shotguns. The British-formed Home Guard units in Malaya (a key element in the ultimate victory as it involved the populace in defeating the guerrillas) made heavy use of shotguns. This British experience led to the widespread adoption of the shotgun by village defence forces, South Vietnamese army regional forces and irregular units in Vietnam. Later in the war, it was proposed to equip the village defence forces with riot-type shotguns. Over 100,000 Savage, Ithaca, Remington and Winchester weapons were delivered but the uncrated weapons, stored in Saigon, were captured at the end of the war.

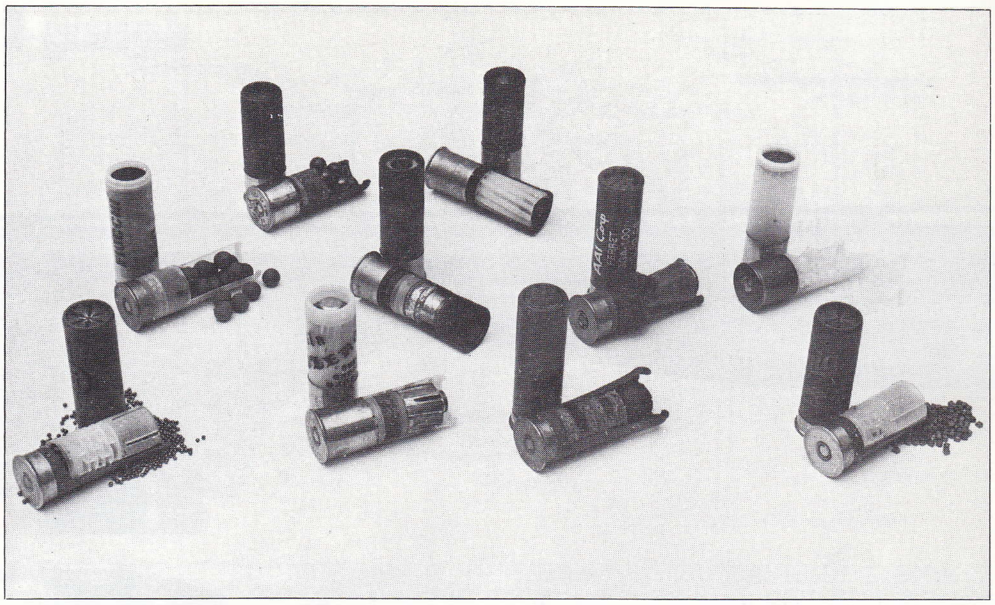
## The 'Bloop gun'

The most widespread 'shotgun' used in Vietnam was not a shotgun at all, but rather the US M79 40-mm grenade-launcher. Found in each US Army rifle squad, the 'Bloop gun' replaced the rifle grenade, firing a high explosive grenade up to 274 m (300 yards). Because of the fragmentation radius of the grenade, it had a minimum range under which it would not explode to avoid killing the gunner himself. Therefore, for close range use, two shells, one containing 27 buckshot and the other containing 45 flechettes, were developed for the M79. when close-range action was anticipated, as when clearing buildings or bunkers, the M79 gunner would quickly load a shotgun round. The Vietnam tableau in the Imperial War Museum in London shows this taking place.

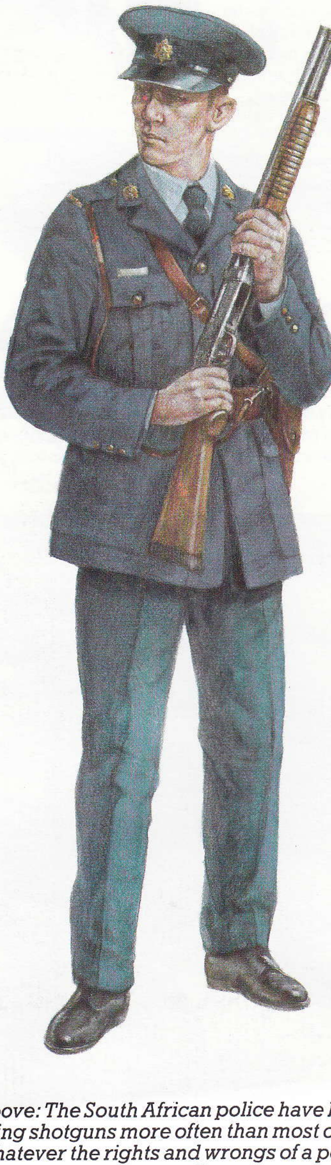
The US military shotguns were used for the traditional tasks of patrolling, guard, and trench-clearing. They were also used for self-protection. Helicopter pilots liked to use shotguns because they were more effective than a pistol and could be fired from a hovering helicopter or moving vehicle.

One occasion when the shotgun's rapid rate of fire and quick reaction saved a helicocpter full of wounded was during the bitter close-range fighting around Hiep Duc during Operation 'Frederick Hill' on 18 August 1969. Wounded troopers of the Americal Division were being loaded onto a 'dust-off' medical evacuation Bell UH-1 helicopter flown by Warrant Officer 2 Steven Hill of the 176th Aviation Company. Out of the smoke and dust emerged a North Vietnamese regular, armed with an AK-47 and grenades. He raised his Kalashnikov at the same time as Hill grabbed for his shotgun, and he got the first round off through the cockpit window. The North Vietnamese was decapitated by the blast.

Since Vietnam, the US Army still retains an interest in shotguns. The 12-gauge Mossberg M500 pump shotgun is currently being procured. A current project is the Heckler & Koch Close Assault Weapon (CAW) which would automatically fire 19.5-mm belted shotshells. This design was based on the lessons of Malaya and Vietnam and emphasizes reliability, rapidity of fire, fast reloadability, large magazine capacity, maximum hit probability, and high single-round lethality. While this remarkable weapon is still under development, the day of the shotgun in counter-insurgency conflict is by no means over.



*Above: The modern shotgun can fire a very wide range of ammunition. The varieties shown include birdshot, buckshot, solid rifled slugs (which can stop an elephant or a car at close range), solid shot, and a special penetrator CS gas shell.*



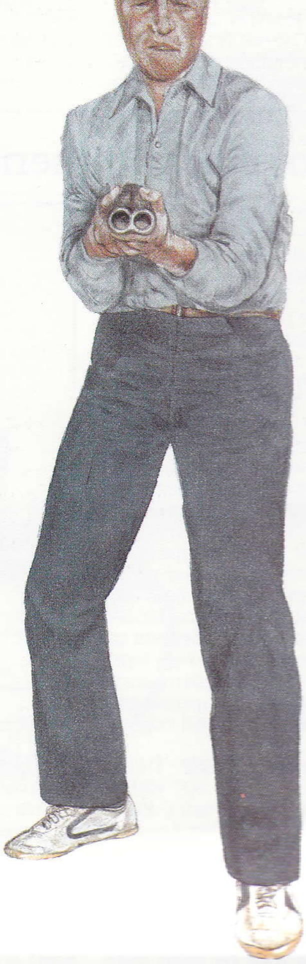
*Above: The South African police have been seen using shotguns more often than most of late. Whatever the rights and wrongs of a political case, the shotgun allows small numbers of security men to control large crowds on the edge of riot. Used injudiciously, however, such weapons can exacerbate disturbances.*

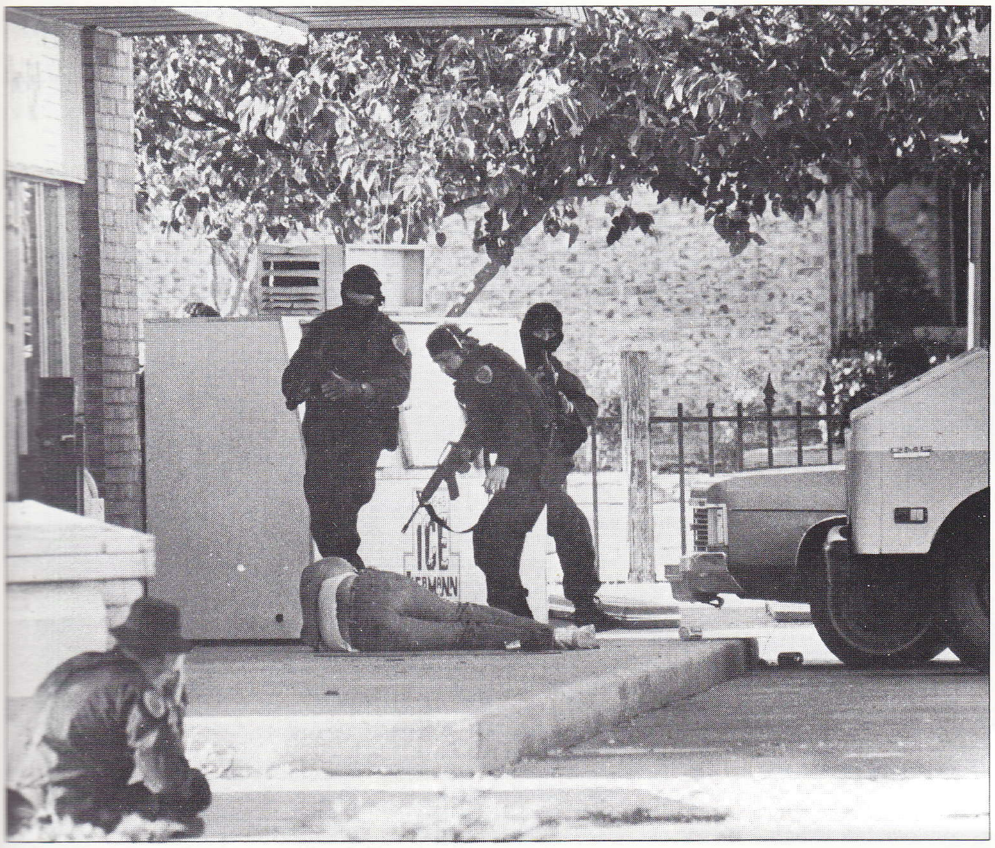
*Below: While the military use of shotguns is likely to increase, it is in paramilitary and law enforcement hands that it is most often seen today. This gasmasked police officer stands guard during a siege which took place in Cleveland, Ohio.*

OFFICE
VACANCY
COBRA

*Above: A Special Weapons And Tactics (SWAT) team moves in to end a hostage crisis in Los Angeles. While the military value of the shotgun is rising, it is law enforcement and paramilitary agencies who currently find its performance ideal for use inside buildings.*

*Right: Not only the law enforcer makes use of the shotgun. In Britain in particular it is the most readily available firearm, and a double-barrelled sporting gun in the hands of a criminal makes a vicious weapon (particularly with a sawn-off barrel).*

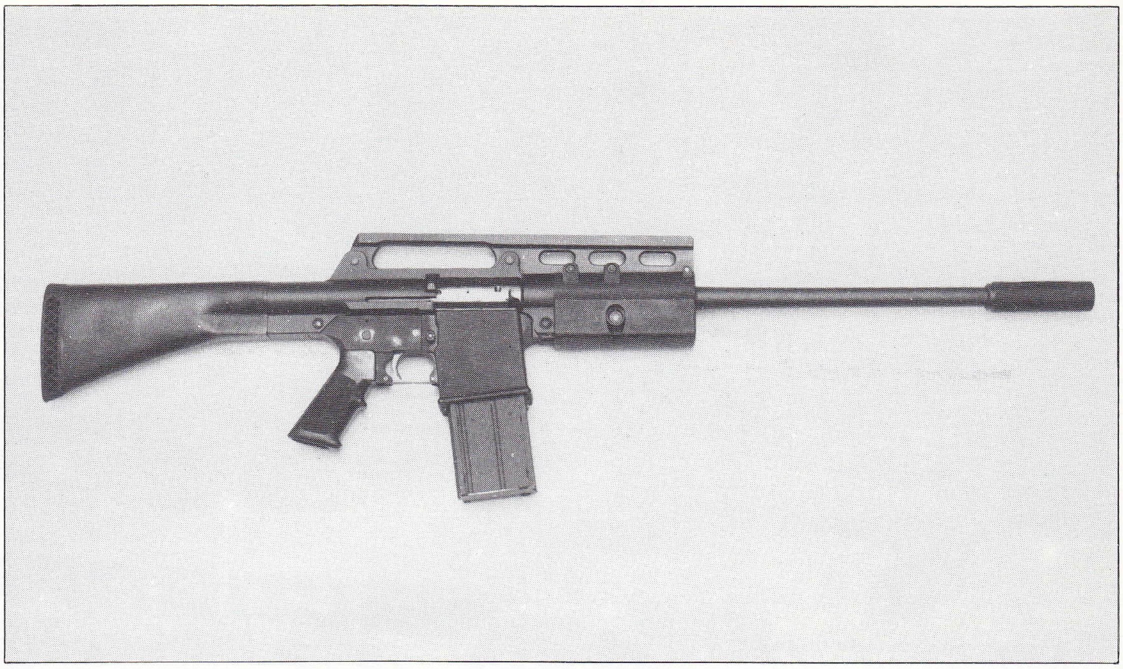




*Above: The end result of a SWAT team action in Oklahoma. The shotgun complements the high-powered rifle in such cases, being particularly effective indoors and at close proximity where its short range greatly decreases the danger for passers-by.*

USA

## Smith and Wesson Shotguns



*The Smith and Wesson Model 3000 series was designed specifically for police and military security work. The AS series, a prototype of which is seen here, are combat weapons pure and simple.*

Smith and Wesson is well-known for its range of pistols, but the company has also produced shotguns for many years, mainly for the police market. Typical of such police weapons are the pump-action **Smith and Wesson Model 912** and **Model 3000** (the latter is still in production). In recent years Smith and Wesson has been researching the future shotgun market, and has as a result designed the **Smith and Wesson AS** (Assault Shotgun) series of combat shotguns.

The AS shotguns are similar in concept to the weapons of the US Army's CAWS programme. Although still in the development stage the AS is to be available in three versions. The **AS-1** is a semi-automatic weapon, the **AS-2** is also a semi-automatic version with a three-round burst capability, and the **AS-3** is a fully automatic weapon capable of multiple-round burst firing. In overall appearance the three versions are similar, and all resemble an assault rifle of the M16 variety. Thus they all have all-in-line configurations and all use detachable 10-round box magazines located in front of the trigger position, which is complete with a pistol grip. As always with such weapons, the sights are raised above the receiver, this time on a long rib.

The AS series can all fire 12-gauge shot or slug cartridges, but the new CAWS ammunition is an option. The mechanism has a rotary locking bolt with no fewer than 12 locking lugs. Aluminium forgings are used for the receiver housing, and high-impact plastics are used for much of the furniture. The weapon can be easily stripped for cleaning or maintenance, and the barrel can also be changed quickly when necessary. The muzzle is fitted with a compensator to reduce barrel 'jump' on firing and also to reduce firing flash.

It would appear that with the AS series Smith and Wesson are setting its cap at the military rather than police market. In American service terms the AS arrives on the scene during the CAWS programme, for which the candidates appear to have already been selected, so it remains to be seen how Smith and Wesson fares. One thing is for sure: by the time the CAWS programme is completed the result (if any) will be expensive and by then the AS series will probably be in production at a more attractive price than most competitors.

### Specification

**AS**

**Calibre:** 12 gauge

**Weights:** empty 4.42 kg (9.74 lb); loaded 5.69 kg (12.54 lb)

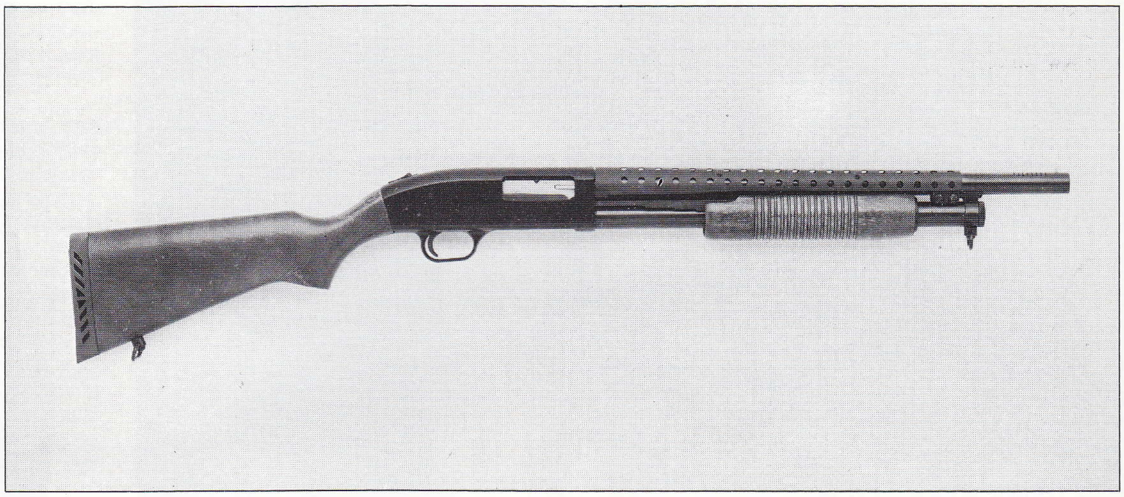
**Lengths:** (overall) 1054 mm (41.5 in); barrel 476 mm (18.74 in)

**Feed:** 10-round box magazine

**Rate of fire:** AS-3, cyclic 375 rpm

USA

## Mossberg 500 series



*Although produced by a much younger company than many of its competitors, the Mossberg 500 series soon found success. Latest models appear very different, but the gun mechanism itself is hardly altered.*

O.F. Mossberg and Sons Inc. is a relative newcomer to combat as opposed to sporting shotguns, for its first such weapon, the **Mossberg Model 500**, appeared in 1961. This was an attempt to break into the police shotgun market, then dominated by the many established 'big names'. After a while Mossbergs made their market breakthrough and the Model 500 is still the company's 'base' product.

The Model 500 is a manual slide-action 12-gauge weapon. The receiver body is forged from high-grade aluminium and the steel bolt locks into a barrel extension to take the firing loads off the receiver. Most components such as the extractors and action slides are 'doubled' to produce strength and reliability, and this makes the Model 500 a very robust weapon despite its low overall price. These points have made the Model 500 and its derivatives widely-used police weapons, but Mossberg has also produced combat versions.

One is the **Model ATP-8SP**. This is basically a police Model 500 with a non-reflective finish and extra attention given to the protective finish of every component. A bayonet mount is provided and there is even provision for mounting a telescopic sight for use when firing slugs, although this feature would appear to be little used. A perforated handguard may be fitted over the barrel and, as with most of the Model 500 range, an up-and-over folding metal stock may be used in place of the normal hardwood fixed component. The Model 500 ATP-8SP has sold well but is now due to be replaced by an updated combat model.

This is the **Model 500 Bullpup 12**. As its name implies, this is a 'bullpup' design with a pistol grip assembly placed forward of the receiver. This makes the weapon considerably shorter than its conventional equivalent, and thus much easier to handle and stow in confined spaces, a considerable selling point for many police and military authorities. On the Bullpup 12 the receiver and much of the weapon body is entirely enclosed in a strong thermoplastic material so there are few components to catch on clothing or anything else. This is partly negated by the all-in-line bullpup layout that dictates that the rear and fore sights have to stick up on posts, but these can be folded down when not required.

The Bullpup 12 can be manufactured 'from new', but Mossberg produces a kit to convert existing Model 500s to the revised configuration.

### Specification

**Bullpup 12**

**Calibre:** 12 gauge

**Weight:** 3.85 kg (8.49 lb)

**Lengths:** (overall) 784 mm (30.87 in); barrel 508 mm (20 in)

**Feed:** 6- or 8-round tubular magazine

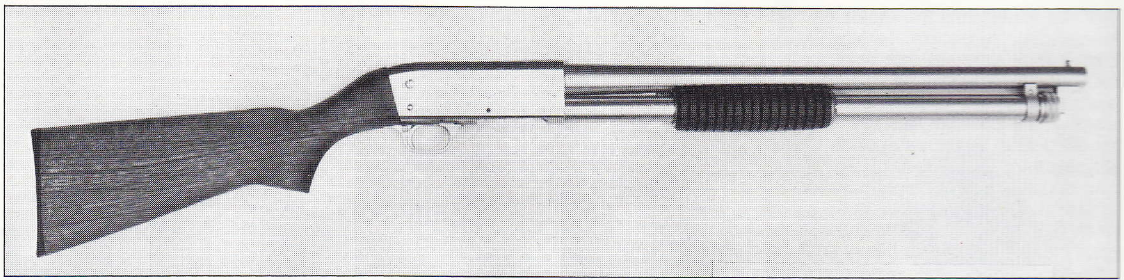
USA

# Ithaca 37 M and P

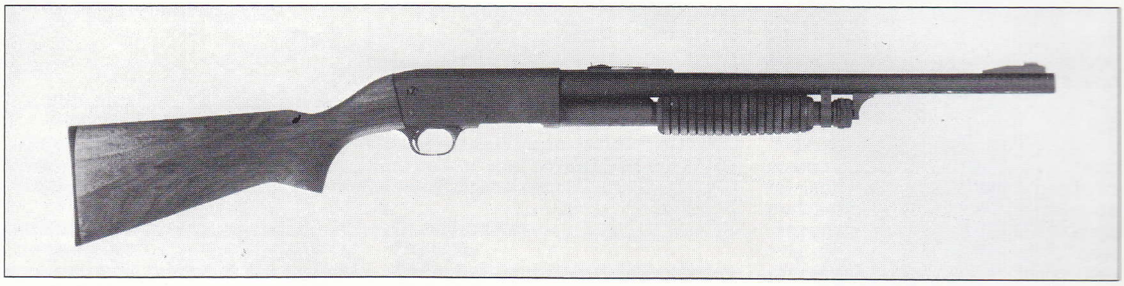
In the USA the shotgun is a well-established police and penal establishment weapon, to the extent that many shotgun manufacturers find it well worth their while to produce weapons tailored to individual police department specifications. Some of these police weapons come very close to military specifications, and such a weapon is the **Ithaca LAPD** shotgun, a weapon based on the **Ithaca DS**. In its turn the Model DS is based on a very well-established design known as the **Ithaca 37 M and P**, very robust and well-made weapons that have been produced with policing requirements in mind.

The Model 37 series has been around for some time: during World War II it was one of the shotguns selected by the US Army for military use. It was used during that period for general shotgun purposes, including riot control, guard duties and even skeet and sport shooting for officer recreation, and was then available in three barrel lengths. The current Model M and P models are not dissimilar to the World War II versions, but are now made that much more rugged.

The current Model 37 M and P 12-gauge shotguns are produced with a range of options available. They may be fitted with a five- or eight-round tubular magazine, and the two barrel lengths are 470 mm (18.5 in) and 508 mm (20 in). Both are used to fire the usual range of 12-gauge shot cartridges using a cylinder choke barrel whereas the Model DS (DeerSlayer, from the Ithaca trademark) has a precision-bored cylindrical barrel that can be used to fire heavy slugs. The Model DS has a 508-mm (20-in) barrel only, and sights are provided. The option of a five- or eight-round magazine is carried over.



*Developed from a lightweight design dating from World War I, the Ithaca 37 was one of the standard military shotguns of World War II. The M and P (Military and Police) model is available with both five- and eight-round magazines.*



*The eight-shot Model 37 M and P is available only with a 508-mm (20-in) barrel, although a shorter barrel can be fitted to the five-shot version. The DS (Deer Slayer) is an especially accurate model, fitted with rifle-type sights.*

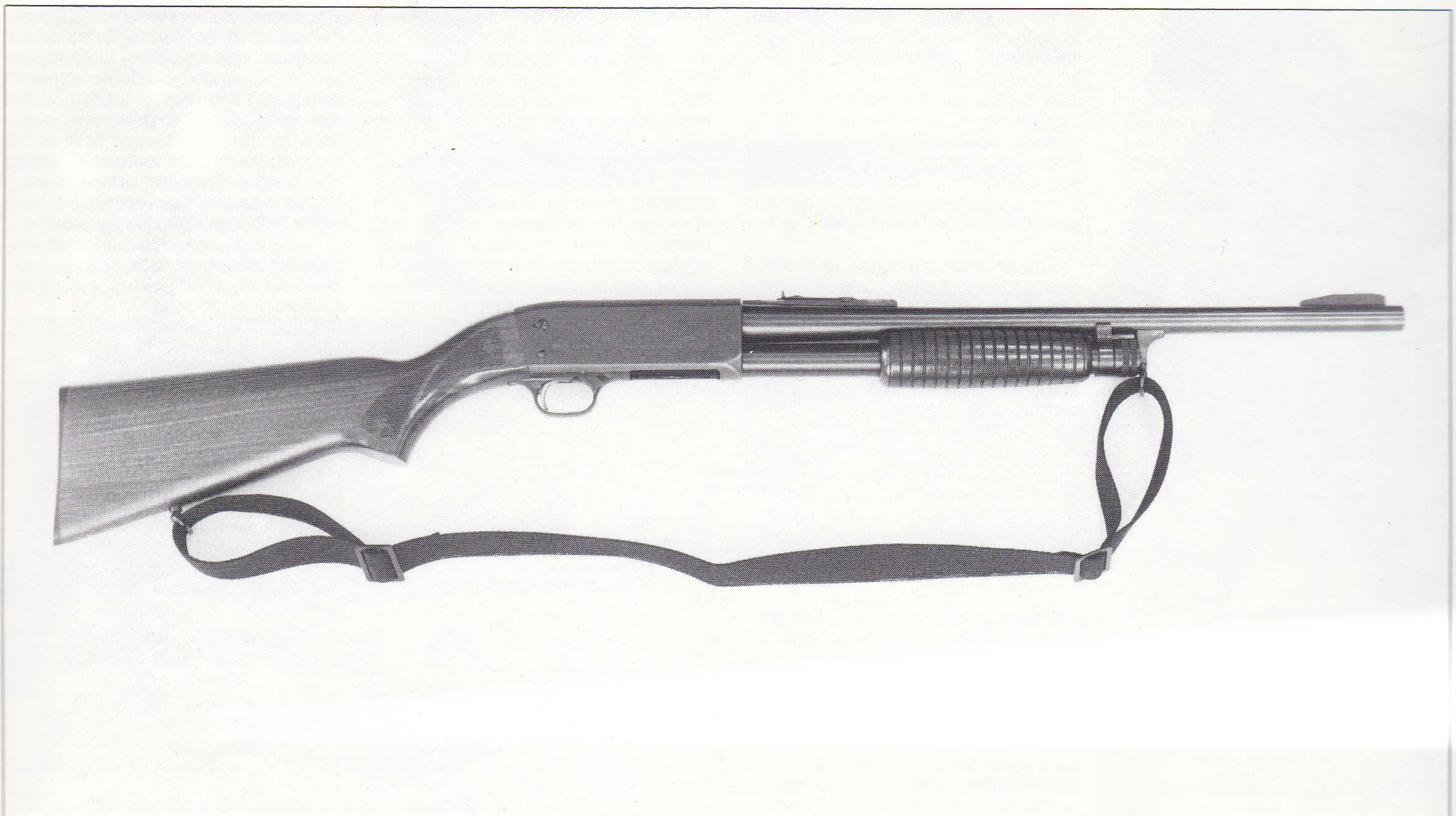
With the Model LAPD the Model DS is taken one stage further. Produced for the Los Angeles Police Department (hence LAPD) this model has a rubber butt pad, special sights, sling swivels and a carrying strap. It has a 470-mm (18.5-in) barrel, a five-round tubular magazine and, like all the other models in the Model 37 M and P range, uses a robust manual slide pump action. Some of these weapons are used by the 'special forces' of several nations as they are ideal combat shotguns. Some reports mention their use by the British SAS.

All the weapons in the Model 37 M and P range have Parkerized finishes to reduce wear and the need for constant cleaning.

## Specification

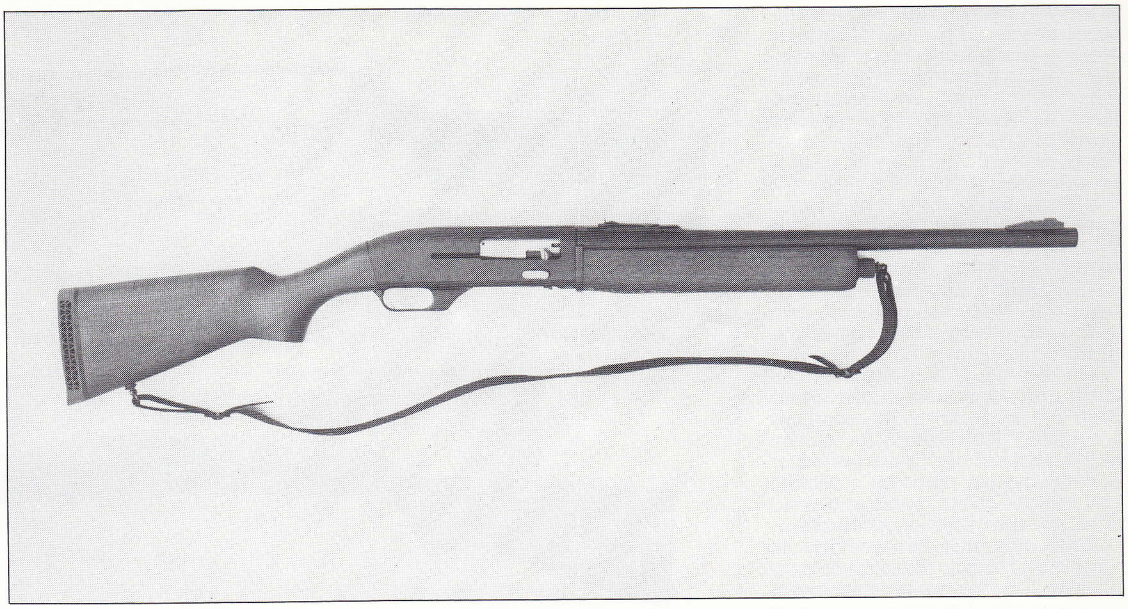
**Model P and M**
**Calibre:** 12 gauge
**Weight:** 2.94 kg (6.48 lb) or 3.06 kg (6.745 lb)
**Lengths:** overall (508-mm barrel) 1016 mm (40 in); barrel 470 or 508 mm (18.5 or 20 in)
**Feed:** 5- or 8-round tubular magazine

*The more highly finished appearance of this Ithaca 37 DS Police Special attests to its original role as a civilian hunting weapon. Nevertheless, its light weight, accuracy and reliable action make it effective as a paramilitary and law enforcement arm.*



USA

## Ithaca Mag-10 Roadblocker



For the Americans the motor car has become such a feature of everyday life that it now appears that even crime cannot be committed without the assistance of the internal combustion engine. To counter this use of automobiles most American police forces employ various methods of preventing car occupants from continuing their unlawful activities, methods that vary from Teflon-coated bullets to crack engine cylinder blocks to heavy shotgun projectiles that can penetrate vehicle bodies and hit occupants. One such heavy shotgun is the **Ithaca Mag-10 Roadblocker**.

The Roadblocker is a 10-gauge shotgun. Normally this heavy cartridge, which is as much as half as powerful again as the 12-gauge type, is used only by the most ardent of big game hunters. It produces a powerful recoil, but when heavy cartridge loadings or solid slugs are used the 10-gauge shotgun becomes a truly formidable piece of short-range weaponry, ideal for countering criminals in speeding motor cars. The heavy shot or slug projectiles can easily pass through most ordinary vehicle bodies or windscreens and still retain enough power to wreak havoc to the interior.

The Roadblocker is a semi-automatic shotgun that partially overcomes the heavy recoil problem by incorporating a patented 'Countercoil' compensator that absorbs some of the recoil forces and prolongs them over a short interval to make the recoil felt by the firer more acceptable; there is also a rubber butt pad. Even so firing the Roadblocker is not a comfortable task. A tubular magazine holds only three cartridges. The barrel may be left in a plain form or it may be covered by a ventilated rib. In both cases all metalwork is Parkerized to reduce the need for constant cleaning.

Weapons such as the roadblocker may be an extreme method of apprehending criminals but they can also have a combat role. In jungle warfare counter-ambush situations the heavy load of a 10-gauge cartridge could cut through heavy foliage far more effectively than even a heavy 12-gauge load, and the effect on a human target can be left to the imagination. A weapon like the Roadblocker could also be used to disable the light military vehicles in special forces operations. The main drawback would appear to be the weight of the weapon.

*In tests, solid rifled slugs from a 10-gauge fired at cars from 25 m (27 yards) to the rear have passed through the whole vehicle and cracked the engine block.*

### Specification

**Roadblocker**
**Calibre:** 10 gauge
**Weight:** 4.87 kg (10.74 lb)
**Length:** barrel 558 mm (21.97 in)
**Feed:** 3-round tubular magazine

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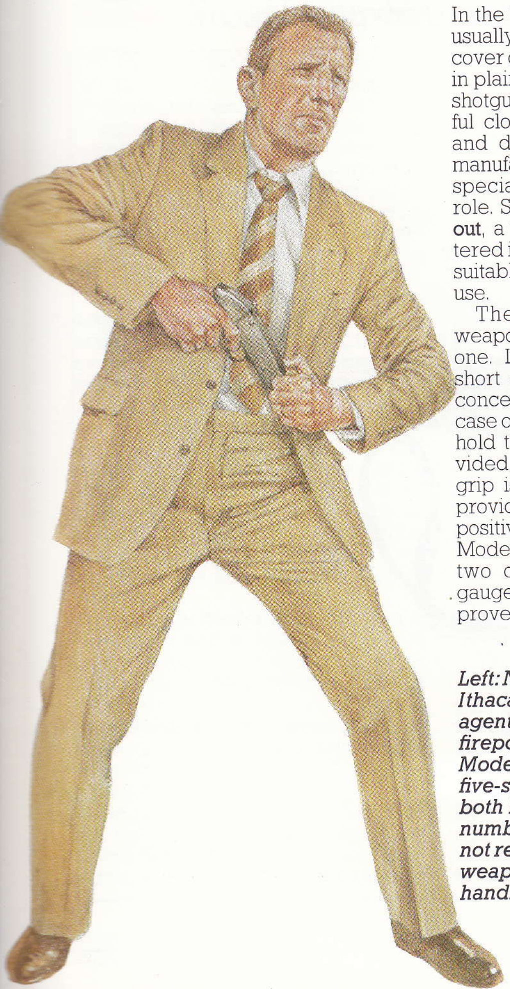
USA

## Ithaca Stakeout



In the USA the police term stakeout is usually employed to denote an undercover or clandestine operation, usually in plain clothes. In such operations the shotgun has found a niche as a powerful close-range weapon for offensive and defensive purposes, and some manufacturers have seen fit to develop special models for this undercover role. Such a model is the **Ithaca Stakeout**, a weapon unlikely to be encountered in a military combat role but very suitable for civil and military police use.

The Ithaca Stakeout is a short weapon without a stock, even a folding one. It has been designed to be as short as possible to enable it to be concealed under clothing or in a briefcase or similar innocuous container. To hold the weapon a pistol grip is provided, and the usual pump-action foregrip is retained, a small strap being provided to make the foregrip more positive. The Stakeout is based on the Model 37 M and P but is produced in two calibres. One is the usual 12 gauge, but since it is felt that this could prove to be a bit of a handful in some circumstances there is a more manageable 20-gauge version. At the close ranges envisaged for the Stakeout a 20-gauge cartridge can be just as effective as the 12-gauge type. Only shot-loading cartridges are fired from the Stakeout as the recoil from firing heavy slugs would make the gun too difficult to handle.

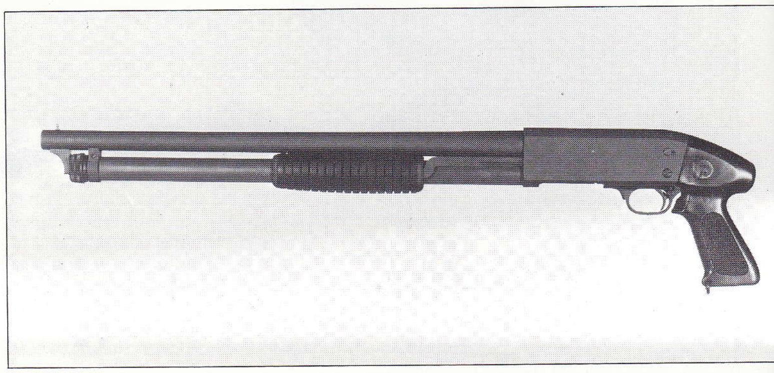
The 20-gauge Stakeout has a blued finish, but the 12-gauge version may be obtained in either a Parkerized or a spectacular chrome-plated finish, placing the latter well out of most military specifications. Even so many military as well as civil police forces have added the Stakeout to their armouries.

There is another Ithaca model similar in concept and employment to the Stakeout but known as the **Handgrip**. This is in effect a standard Model 37 with the butt stock replaced by a pistol grip similar to that of the Stakeout. In all other respects the Handgrip is exactly the same as the Model 37 M and P shotguns and carries over the same magazine capacity and barrel length options. The overall length of the Handgrip makes it generally unsuitable for the clandestine role of the Stakeout but it can be easily carried and stowed within the confines of police vehicles. The Handgrip is used to fire shot cartridges only.

### Specification

**Stakeout**
**Calibre:** 12 or 20 gauge
**Weight:** (12 gauge) 2.26 kg (4.98 lb) or (20 gauge) 1.58 kg (3.48 lb)
**Length:** barrel 336 mm (13.23 in)
**Feed:** 5-round tubular magazine

*Left: Notably compact and light, the Ithaca Stakeout gives the security agent or bodyguard enormous firepower, being a derivative of the Model 37 M and P which retains the five-shot magazine. It is available in both 12- or 20-gauge and in a number of finishes. Solid slugs are not recommended for use in these weapons, as the recoil could make handling a little tricky.*



*Unlike the Stakeout, the Handgrip Model 37 is basically a standard Model 37 M and P with a pistol grip. It is designed for use within vehicles.*

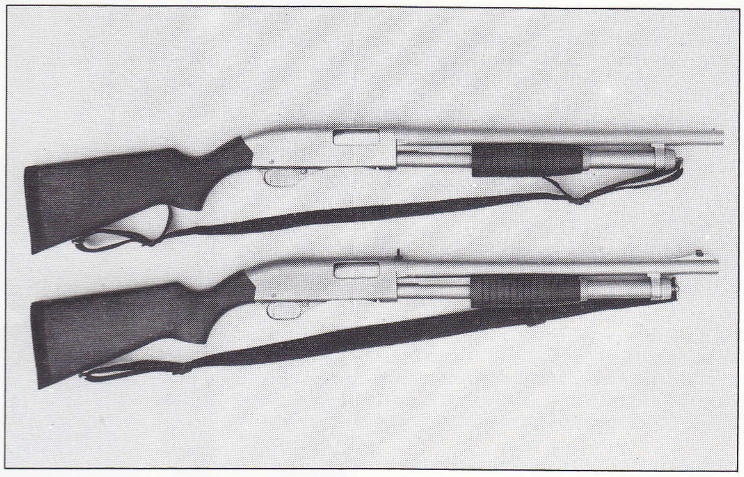
USA

# Winchester shotguns

The US Repeating Arms Company, usually known as Winchester, is best known for its rifles, but also produces shotguns for the sporting market and also for police and paramilitary use. In the past Winchester shotguns were produced in a wide variety of models, including the **Winchester Model 12** used during World War II and some of the few box-magazine combat shotguns ever produced, but current models are limited to a few manual slide-action models.

The basic Winchester shotgun model is a 12-gauge design known as the **Defender** and produced primarily for police employment, although it has been found in military hands. Overall the Defender is a conventional design but the action is compact and as always with Winchester weapons the standard of manufacture and finish is first-class. Operating the slide action opens and closes a rotary bolt that provides a very positive and safe lock, and the unlocking is recoil-assisted to speed the overall action considerably, placing the weapon almost into the semi-automatic class. The tubular magazine extends to just under the muzzle and can hold six or seven cartridges, depending on whether they are normal shot cartridges or the longer heavy slug type. The finish is usually blued or Parkerized, but there is a version produced specially for police use, all the metalwork being stainless steel. This version may be fitted with rifle-type sights for firing slugs, and the magazine is slightly shorter than that of the standard Defender. Sling swivels are also provided.

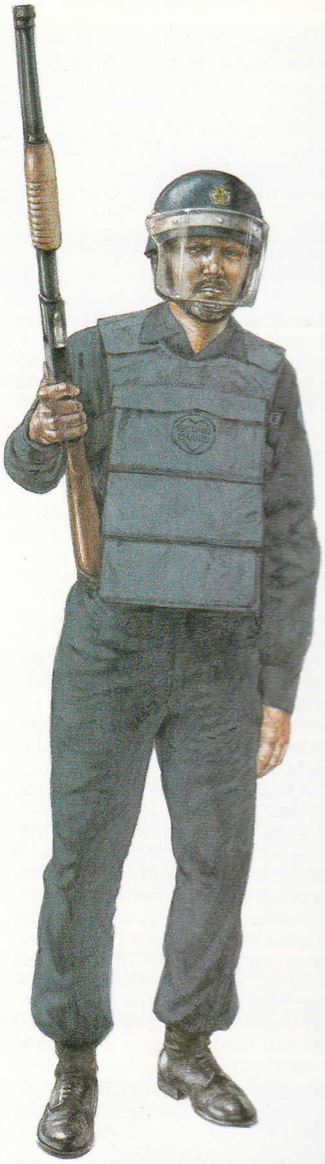
Perhaps the most unusual of the current Winchester shotguns is one produced specially for use by naval or marine forces. This is based on the Defender but is more akin to the stainless steel police model for it has been designed to be corrosion-resistant. All weapons in a naval environment are subject to the effects of corrosive salts and stainless steel is proof against many of them. To ensure virtually complete protection the 'marine' Winchester also has all its external metal parts chrome-plated. The result is a striking-looking weapon but one which would seem to have some eye-catching drawbacks in combat situations. However, this model has been sold, usually to paramilitary forces such as coastguards who use shotguns to arm boarding parties.



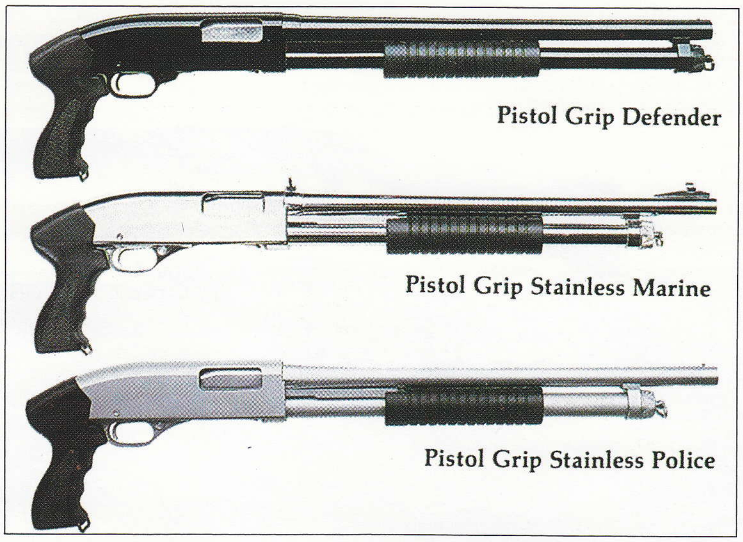
*US Repeating Arms Company (otherwise known as Winchester) Model 1200 slide-action shotguns have 457-mm (18-in) barrels and are finished in a satinized chrome which minimizes reflected light and resists corrosion.*

### Specification

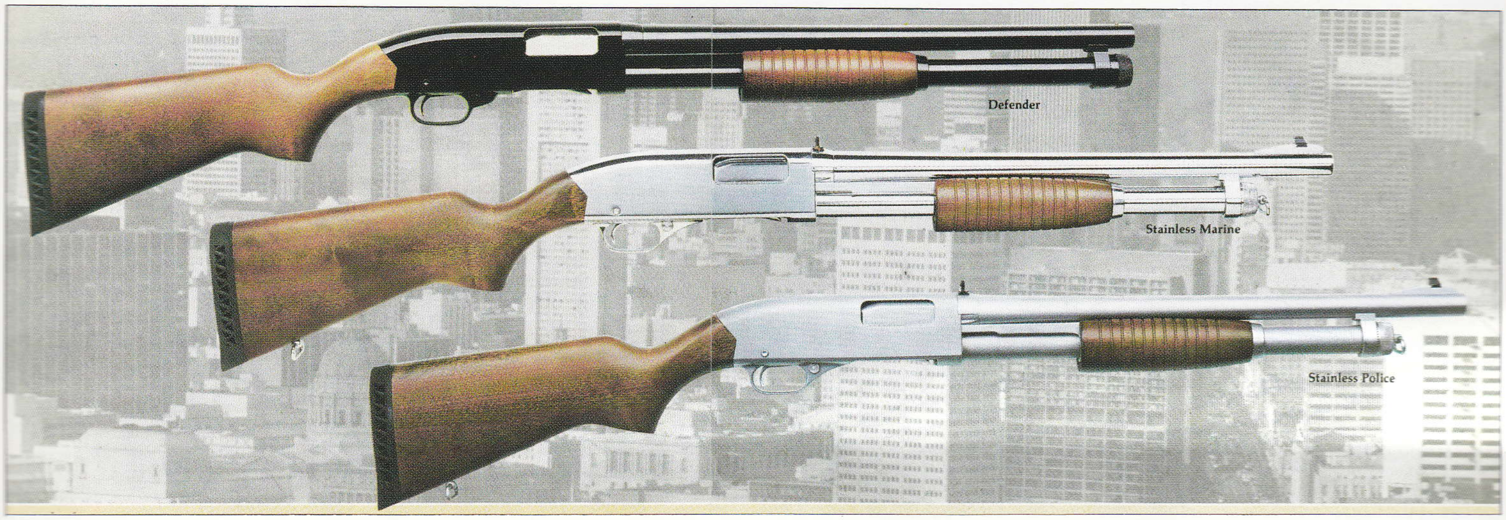
**Defender**
**Calibre:** 12 gauge
**Weight:** 3.06 kg (6.74 lb) or (stainless steel models) 3.17 kg (6.99 lb)
**Length:** barrel 457 mm (18 in)
**Feed:** 6- or 7-round tubular magazine or (stainless steel models) 5- or 6-round tubular magazine



*Above: In future, British police may well follow this Winchester armed American model, with fireproof overalls, bulletproof vest and visored helmet. Shotgun-armed policemen are now seen on the streets of London when Scotland Yard's specialist weapons officers are on duty.*



*Right and below: Winchester has produced the Defender in three related versions, all available in butted or pistol grip form. The police model is built from stainless steel, and has a smaller magazine capacity than the standard Defender.*



USA

## Remington Model 870 Mark 1

*Remington shotguns have a long history of combat usage, but the Model 870 was not officially adopted until the mid-1960s, when the United States Marine Corps took the weapon to war in the jungles of Vietnam. It has also been widely adopted as a police weapon.*

It is very probable that over the years more Remington shotguns have been used for combat purposes than any other make. The list of Remington guns is such that even a listing would probably cover a page, so only one combat model will be considered. This is the **Remington Model 870** modified for use by the US Marines and known as the **Shotgun, 12-gauge, Remington, Model 870, Mark 1**.

The Model 870 has been one of the most widely-used of all shotguns for some time. It has been produced in basic models such as the **Model 870R** (Riot) and **Model 870P** (Police), but there have been many other types and an equally large number of conversions and adaptations. The Model 870 is a slide-action weapon, and when the US Marine Corps conducted prospective combat shotgun trials during 1966 it decided that, for reasons of reliability in combat, such a weapon would be preferable to one of the many semi-automatic actions available, and the Model 870 was the USMC's main choice. After a few modifications to suit the USMC's requirements exactly, the Model 870 Mark 1 was placed in production and has remained in USMC service ever since.

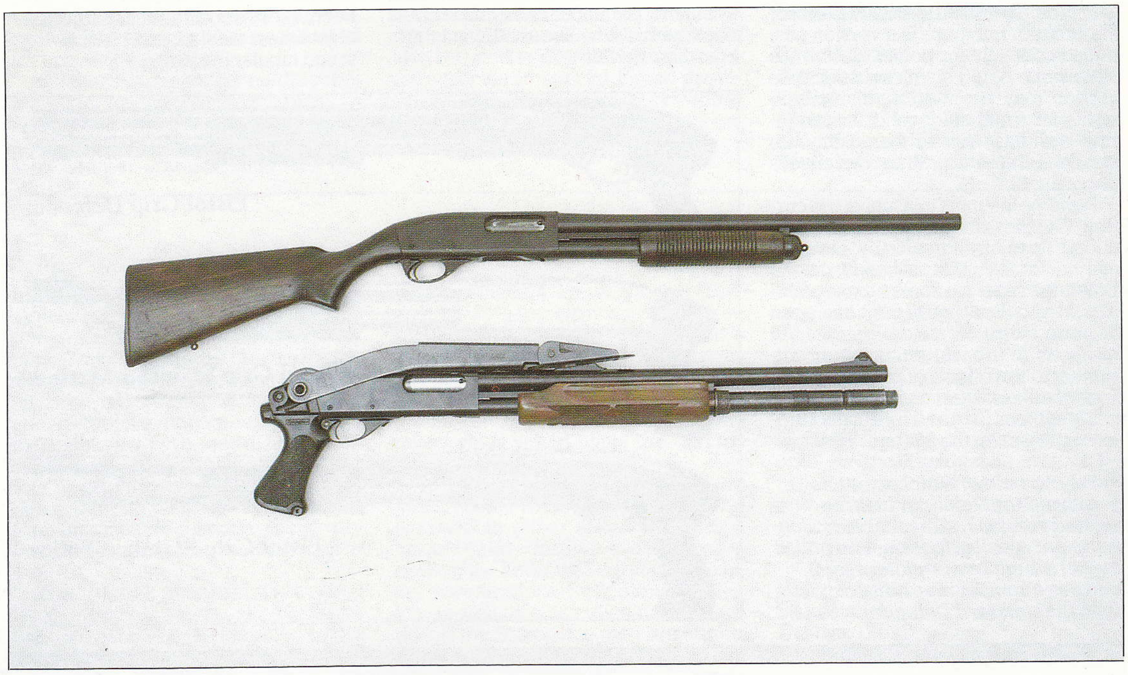
The Model 870 Mark 1 has a seven-round tubular magazine and is used to fire a wide range of ammunition from light shot to flechettes. The gun has many 'extras' to suit the US Marines (such as sling swivels) and the magazine extension holding bracket has a lug to mount a bayonet (of the same type as that used on the M16A1 rifle). The ventilated hand-guard over the barrel and the rubber butt pads found on many 'civilian' Model 870s are not fitted to the Mark 1 as they were not deemed necessary for combat use.

The US Marines have used their Model 870 Mark 1s quite often since they were introduced. The weapon is not one that is usually carried during large-scale amphibious operations, but the US Marines have many other combat tasks including forming boarding parties during actions such as that carried out during the almost-forgotten '*Mayaguez* incident' of May 1975. The guns were used widely during the Vietnam War (often by SEAL teams) and there is no reason to suppose that the US Marines have now forgotten how to use shotguns.

At one point there was a project to convert the Model 870 Mark 1 to accommodate a 10- or 20-round box magazine but the end of the Vietnam War terminated the scheme at the advanced development stage.

### Specification
**Model 870 Mark 1**
**Calibre:** 12 gauge
**Weight:** 3.6 kg (7.94 lb)
**Lengths:** (overall) 1060 mm (41.73 in); barrel 533 mm (21 in)
**Feed:** 7-round tubular magazine

*Below: Such is the usefulness of the shotgun in the jungle, that the British Army made extensive use of the weapon in counter-terrorist operations in Malaya, both against Communists and during the Indonesian confrontation. The fully-stocked Remington 870 is one actually used in the Far East; the other is a folding stocked riot gun with extended magazine.*



USA

## Pancor Jackhammer

The **Pancor Jackhammer** is a very recent arrival on the combat shotgun scene but it uses an operating mechanism that has been around for some time. The weapon has many original features, not the least of which being that it can fire on full automatic and it also uses a pre-loaded rotary magazine.

The Jackhammer possesses an unusual appearance and has a 'bullpup' configuration with the rotary magazine placed behind the trigger. The pre-loaded plastic magazine holds 10 rounds and is clipped into the weapon before the fore-end of the stock is moved to and fro to cock the weapon. On firing the barrel moves forward. As it does so a gas-operated stud moves in an angled groove on the magazine to start the rotation to the next round. Once forward, the barrel is pushed back by a spring and the magazine rotation is completed. (This system was used on the World War I Webley-Fosbery revolver.) Once the barrel has returned the weapon is ready for the next shot. On full automatic the cyclic rate of fire is 240 rounds per minute and barrel jump is partially offset by a downward-angled muzzle compensator that doubles as a flash eliminator.

The Jackhammer makes much use of tough plastics throughout its construction. In fact only the barrel, return spring, magazine rotation mechanism and muzzle flash eliminator are steel. The magazines, known as 'ammo cassettes', are delivered pre-loaded and sealed in plastic film colour-coded to signify the type of cartridge enclosed. This sealing film has to be removed before loading. It is not possible to load single cartridges, although single-round fire can be selected.

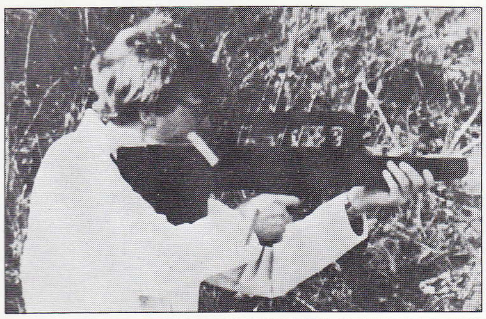
The sights are contained in a channel on the assembly that acts as a carrying handle. This extends for almost the entire length. Firing the Jackhammer is not the problem for left-handed firers that bullpup layout weapons usually are, for no spent cartridge cases are ejected: they remain in the rotary magazine that can be discarded once all rounds have been fired. When the magazine is empty a retaining catch opens and allows the component to fall free.

The Pancor Jackhammer is still in the advanced development stage, and it is very possible that some alterations to the mechanism and/or appearance may be made before full production gets under way. In the meantime the Jackhammer appears to be a very interesting and promising design.

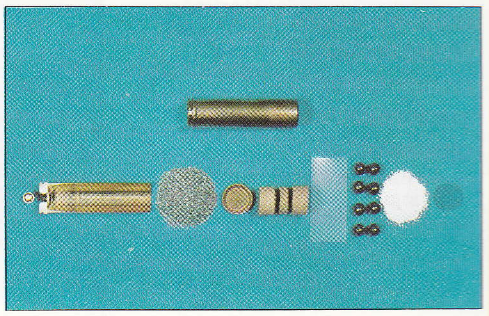
### Specification
**Jackhammer**
**Calibre:** 12 gauge
**Weight:** loaded 4.57 kg (10 lb)
**Lengths:** (overall) 762 mm (30 in); barrel 457 mm (18 in)
**Feed:** 10-round rotary magazine
**Rate of fire:** cyclic 240 rpm

# Close-Assault Weapon Systems

*The efficacy of the shotgun in close-quarter combat has led to the US Joint Services Small Arms Program issuing a specification for a Close Assault Weapon System. Many authorities see this as a viable small-arm system for the future.*



*The Olin/Heckler & Koch entrant into the Close Assault Weapon System competition is fired. The CAWS is more akin to modern assault rifles than to current shotgun designs, which is not really surprising in a weapon designed for the front line.*



*A CAWS buckshot shell is broken down into its constituent parts. One of the results of British analysis of shotgun performance in Malaya was the realization that a hit by a single shot, out of the eight or so per shell, could incapacitate a man.*

By the late 1970s the US Army had been forced to accept the fact that no matter how good the training of the average soldier before he goes into action, combat stresses render him unable to fire a service rifle accurately. This simple fact was no revelation to most military authorities although few were able to do anything about it (other than impose yet more training), but in 1979 the US Army determined to see what could be done to rectify the matter.

The US Army's approach was to develop a weapon that does not require accurate aiming to hit a combat-type target. This form of weapon did not require much development for it has been around for years: it is called the shotgun. However, the US Army wanted something slightly more certain of effective target engagement at combat ranges than a simple scattergun. Thus the **Close-Assault Weapon System (CAWS)** was born, the latest in a long line of similar projects.

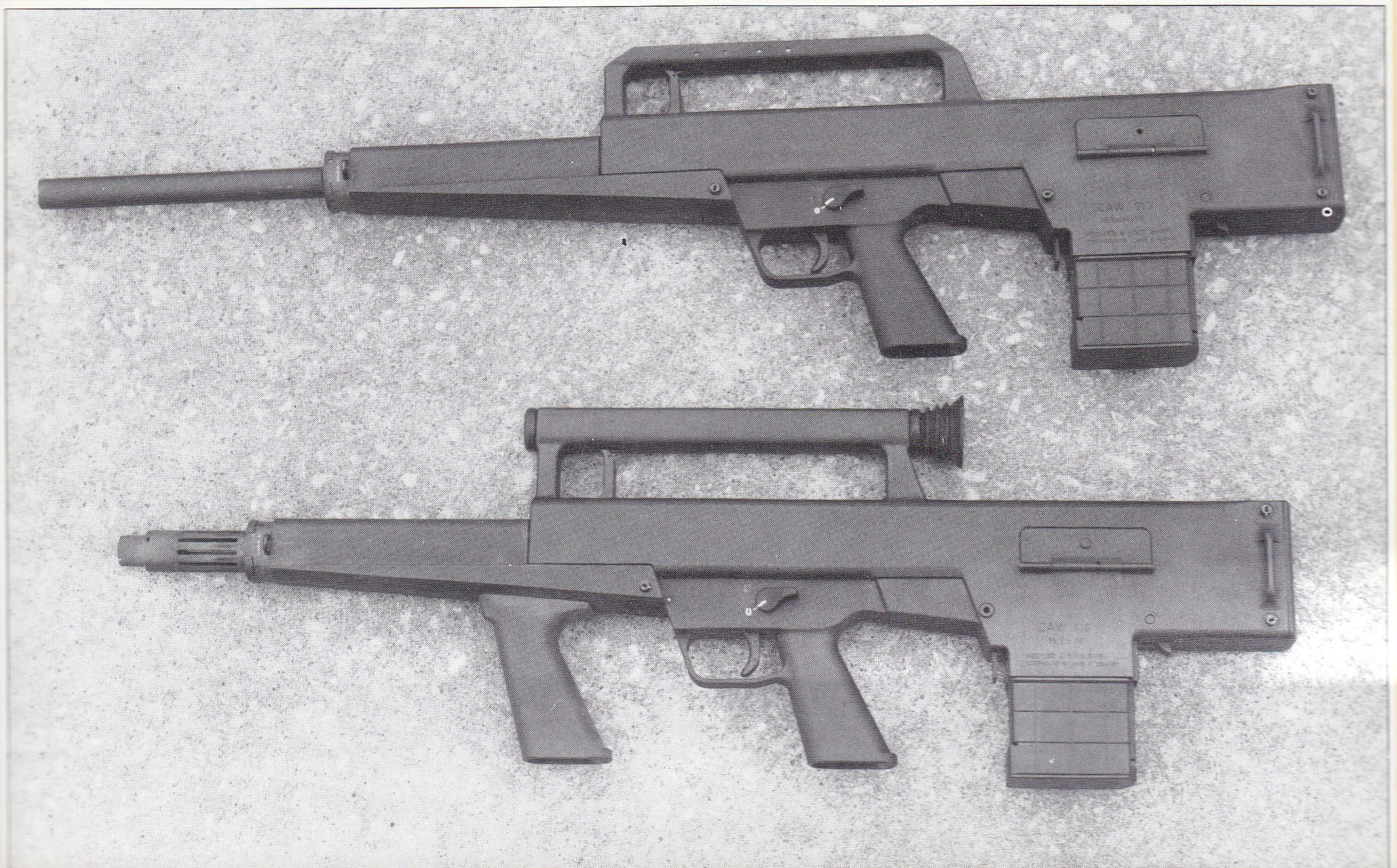
CAWS is not just a weapon programme but more of an ammunition approach as the combat shotgun is now well established. What has been done by the US Army Joint Small Arms Program (JSSAP), sponsors for CAWS, is to approach two commercial organizations and get them to develop the ammunition and weapons. These organizations are the AAI Corporation of Baltimore and a consortium of the American Olin Industries and the West German Heckler und Koch.

With both the approach has been to develop flechette ammunition. The flechette is one of a cluster of small arrow-like finned projectiles fired from a single cartridge at high velocity, and is no newcomer to warfare. Flechettes were fired from shotguns in Vietnam, and they have been a recurrent feature of American ammunition development since World War II. For the CAWS programme flechettes are fired from 12-gauge brass or plastic cartridge cases 76.2 mm (3 in) long. AAI uses eight flechettes to a loading; the Olin cartridge uses 20. Both loadings have to be effective up to 150 m (164 yards). Standard 12-gauge shot cartridges are also fired from the CAWS weapons and other ammunition (such as armour-piercing, high explosive and riot-control munitions) are under development.

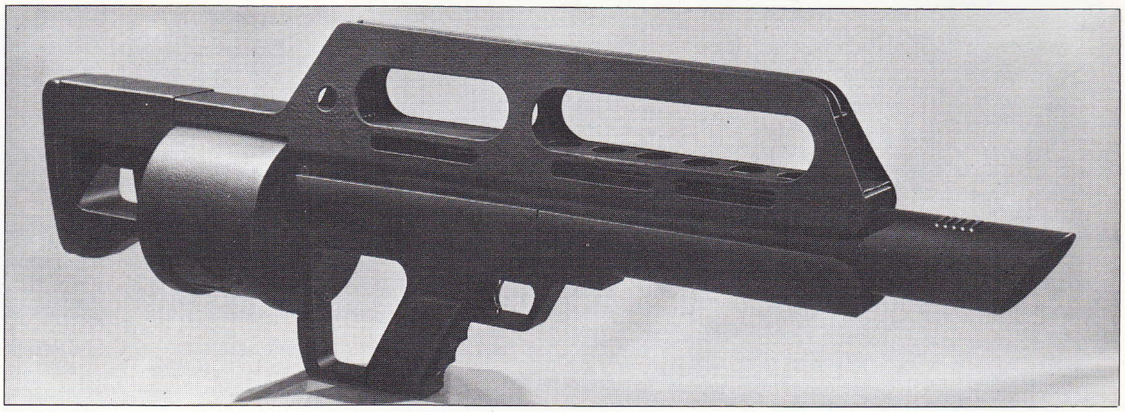
With both types of flechette ammunition the propellant pushes forward a plastic piston to eject a pusher plate supporting the flechette tails, each having a small plastic drag cone. The pusher plate soon falls away to allow the drag cones to stabilize the flechettes in flight. Accuracy is such that a CAWS cartridge can put its entire flechette load into a 914-mm (36-in) circle at 50 m (55 yards). The effect of this on the human frame is best left undescribed.

The AAI CAWS weapon is a fairly conventional gas-operated design that can be fired on fully automatic yet is contractually obliged to have no more recoil than a normal shotgun. It has a 12-round detachable box magazine, an optical sight and uses some M16 components.

In contrast the Olin/Heckler und Koch submission resembles a 'space age' weapon, for it is an adaptation of the Heckler und Koch G11 rifle, originally designed to fire caseless ammunition. Unlike the rifle much of the body is steel, but the fore end is high-impact plastic with a small optical sight set over the body. The 10-round magazine is located behind the trigger. The West German military authorities are taking great interest in CAWS with a view to possible adoption of the resultant weapon and ammunition.



*The Olin/Heckler & Koch Close Assault Weapon System displays a family resemblance to the revolutionary G11 rifle, although the outer case is steel rather than plastic.*



*The unusual Pancor Jackhammer uses an action similar to that of the Webley-Fosbery self-loading revolver of World War I. When firing, the recoil forces the action back, engaging a groove in the cylinder which turns it and presents a new shell for firing. Because the used shells remain in the cylinder, the Jackhammer avoids the problems associated with bullpup designs, in particular the ejection of cartridges close to a shooter's face. On full automatic, the 10-shell magazine can be emptied in 2⅓ seconds. The Cutts-style compensator on the muzzle brake holds the weapon down when firing at that rate.*

USA

## Savage Model 77E

The **Savage Model 77E** is another shotgun with a long history. It was originally known as the **Model 520** and was in production during World War I, when it was acquired by the US Army for trench fighting. Later produced for sporting uses in a form known as the **Model 620**, it went out of production entirely in 1932 and was then resurrected during World War II as a standard US Army 'riot gun', complete with bayonet and sling.

After 1945 most of the Model 520/620s went back into storage, only to be dragged out again when the Vietnam conflict flared. They were then issued to local armed forces for general guard and other duties and the demand was such that a revised version with a short stock and rubber butt pad to suit the stature of South East Asian users was placed back into production. This was the Model 77E.

The 12-gauge Model 77E is finished to military specifications but is otherwise similar to the earlier sporting Model 520. It is an orthodox and sturdy manual pump-action weapon with a tubular magazine holding five rounds, and it can be easily broken down into two basic halves for stowage and carriage. Although originally intended for Vietnamese forces Model 77Es were soon in use with the US Army and US Marines, who used them to such good effect that subsequent combat analyses showed that more casualties were inflicted by the Model 77E than the then-controversial M16A1 rifle. Experience showed that in order to be fully effective at close quarters the Model 77E had to be fired as rapidly as possible every time it was used. This gave rise to the battle phenomenon known as 'rolling burst'. However, the restricted capacity of the magazine limited this tactic and troops carrying the Model 77E took every opportunity to keep the magazine fully topped up. Standard shot and flechettes were the usual combat loads.

The Model 77E proved the efficiency of the shotgun in modern warfare to the extent that shotguns are once more a firmly established part of the American armed forces' armoury. However, the Model 77E is now no longer part of this armoury for although the weapon worked well in South East Asia American troops disliked the short stock and the limited magazine capacity. Thus Model 77Es were handed over to local friendly forces or placed back into store. Many are still to be found here and there in the hands of various armed forces, both regular and irregular.

### Specification

**Model 77E**
**Calibre:** 12 gauge
**Weight:** 3.08 kg (6.8 lb)
**Lengths:** (overall) 978 mm (38.5 in); barrel 505 mm (19.9 in)
**Feed:** 5-round tubular magazine

SOUTH AFRICA

## Armsel Striker

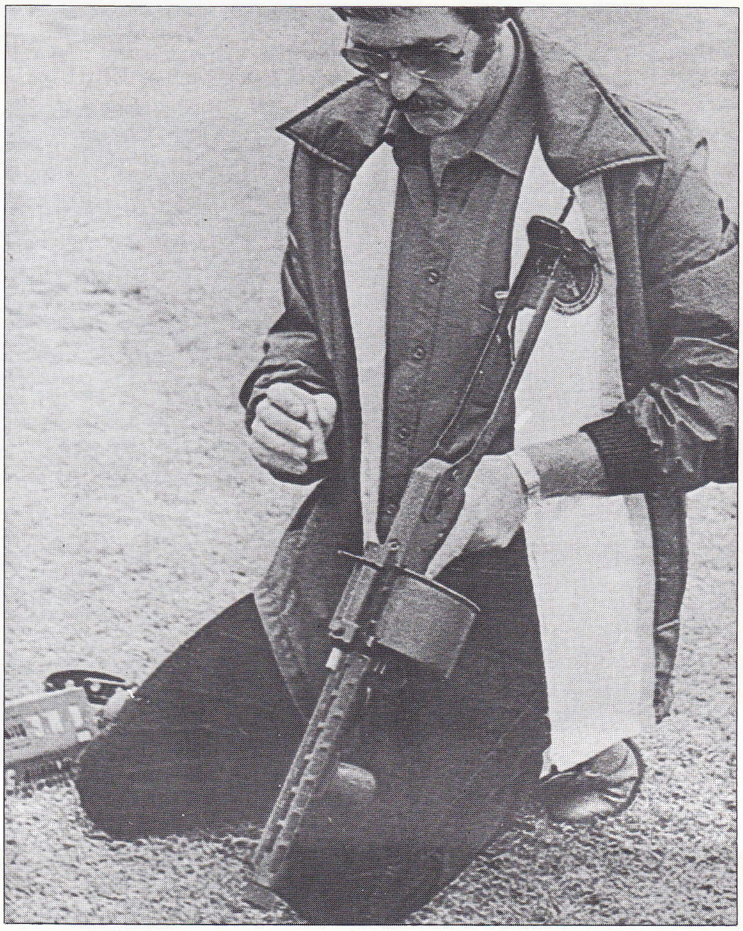
The **Armsel Striker** is a semi-automatic 12-gauge shotgun that has only recently appeared on the market, so recently that few specifications are available. It is an indigenous South African design (now being made by Reunert Technology Systems near Johannesburg but originally created by Armsel), intended for uses ranging from civilian self-protection to full military combat applications.

The Striker's main feature is its 12-round rotary magazine. This is a spring-wound design loaded with cartridges through a trap on the right rear of the drum; the magazine spring is tensioned by a key at the front of the magazine. Once the weapon is loaded, one pull of the trigger fires a round and rotates the next round into line with the firing pin, it being impossible to fire the weapon until the firing pin is exactly in line with the next cartridge. The recoil is claimed to be less than that of a normal shotgun, although exactly why this should be is not clear for the barrel is certainly shorter than those of most other similar weapons. It is possible that the recoil is masked by the fact that the Striker has a foregrip under the barrel and a pistol grip; there is also a metal stock that can be folded up and over the barrel. The barrel has a perforated metal sleeve to dissipate heat produced by prolonged firing and to prevent the hot barrel being touched by the firer's hand, for the rapid firing of the full 12 rounds would certainly produce a very hot barrel.

The Striker can fire a wide range of 12-gauge ammunition ranging from bird shot (often used in South Africa to disperse crowds) to heavy metal slugs. The weapon may be fired with the butt folded, although firing the heavier loads without using the butt could prove somewhat too lively for comfort. The sights are very simple, for the Striker is obviously not meant as anything other than a very short-range weapon for clearing crowds or perhaps in close-quarter combat in built-up areas. It could also prove to be very useful in bush warfare where infantry engagements and ambushes are often at very close ranges as a consequence of the overall lack of visibility resulting from the prevalent short scrub vegetation.

Development of the Striker is said to be complete and the weapon is now in production. As yet there is no indication that it has been accepted for police or military use, but considering the circumstances that trouble South African society it will be very surprising if it does not find some form of official acceptance in the very near future.

**Specification:** not available



*It would be surprising if a nation in arms like South Africa did not come up with some interesting small arms developments. The semi-automatic Armsel striker is a case in point, its 12-shot rotary magazine giving considerably more firepower than conventional guns.*

# Venezuela

Venezuela is the sixth largest country in South America, and is the world's third largest oil exporter. Thus a fair amount of money is available to equip the defence forces. The majority of the population is concentrated in the main urban centres, and much of the country is essentially uninhabited. The president is the commander-in-chief of the armed forces, which are split into the three traditional services (army, navy and air force) plus a fourth, called the Fuerzas Armadas de Co-Operación, which is a national para-military police organization known semi-officially as the National Guard.

## The Army

Venezuela is divided into five military regions with one nominal army division attached to each. There is also an armoured brigade (with three medium and one light tank battalions) and a paratroop brigade (two battalions).

The 27,500-strong regular army forms the following units:

one armoured brigade (with four tank battalions),
one cavalry regiment (horsed),
two independent mechanized infantry battalions,
one paratroop brigade (with two battalions),
six infantry brigades (with a total of 11 line infantry
  and 13 infantry rifle battalions)
five towed artillery groups,
one self-propelled artillery group,
one ranger brigade (with six battalions),
one air-defence artillery group, and
five engineer battalions.

Surprisingly, Venzuela was the first South American country to seek weapons from US sources following World War II, and this trend continues. The medium tank battalions now use French AMX-30 MBTs which are due for modernization in the very near future, whilst the single light tank battalion uses AMX-13FL-10 tanks plus a number of armoured scout cars. The full list of equipment used includes:

**Armour:** AMX-30 MBTs; AMX-13 light tanks; AML-60, AML-90, Dragoon and EE-9 Cascavel armoured cars; EE-3 Jararaca reconnaissance vehicles; and AMX-VCI, EE-11 Urutu and Commando V-150 APCs;

**Artillery:** (towed) 75-mm (2.95-in) M116 pack howitzer, 105-mm (4.13-in) Model 56 pack howitzer and 105-mm M101 howitzer; (self-propelled) 76-mm (3-in) M18 tank destroyer and 155-mm (6.1-in) F.Mk 3 SP gun; (MRL) AMX-13 160-mm (6.3-in) LARS; and (mortars) 60-mm (2.36-in), 81-mm (3.2-in) and 120-mm (4.72-in) Brandt, and 81-mm M29;

**Anti-armour:** SS.11 ATGW, and 106-mm (4.17-in) M40A1 recoilless rifle;

**Air defence:** (towed) 40-mm Bofors L/60, 40-mm Breda L/70 and 40-mm Bofors L/70; (self-propelled) 20-mm AML-S530 and 40-mm M42; and (SAM) Roland; and

**Small arms:** 9-mm Browning Hi-power pistol; 9-mm Uzi, 9-mm Beretta M12, 9-mm MPK and 9-mm Ingram SMGs; 7.62-mm FAL rifle; and 7.62-mm FN-MAG MG.

*The armed forces have benefitted from Venezuela's massive oil revenues and are equipped with relatively modern equipment.* Federacion *is one of a six-strong class of Vosper-Thornycroft Fast Attack Craft, armed with Otomat SSMs and a 76-mm Compact Gun.*

There is also a small army aviation service, the Servicio de Aviación del Ejercito Venezolano, which has two squadrons: a transport unit with 18 fixed-wing aircraft (of which the four IAI Aravas and two Aeritalia G222s are the most important) and a helicopter unit with some 20 Bell helicopters of various types.

## The Navy

Like its sister services, the 4,250-strong Venezuelan navy is endowed with relatively modern equipment. The submarine force is the main offensive arm, and has two West German 'Type 209s'

*In common with many of the world's navies, Venezuela has diesel-electric submarines built in West Germany. S-32* Caribe, *commissioned in 1977, is fitted with a snort and very high-capacity batteries, giving an endurance of 50 days.*

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*Venezuela's air force is small but the most modern in Latin America, and has recently embarked on a major re-equipment programme. Dassault Mirage 5s (seen above) have now been supplemented by General Dynamics F-16s: the first Fighting Falcons to be supplied to a South American country.*

and an American 'Guppy II' fleet submarine conversion. The surface strike and coastal protection roles are undertaken by six 'Lupo' class frigates recently procured from Italy and armed with Otomat SSMs. There are no other major surface combatants in the navy apart from a recently modernized amphibious warfare group of five LSTs together with several smaller landing craft. There is, however, a Coast Guard (CG) which is under naval control and which has a force of ex-navy ships. The main units are two refurbished light frigates and six gun- or missile-armed fast attack craft. A full listing of the ships available to the fleet include:

**Submarines:** two 'Type 209' and one 'Guppy II';
**Frigates:** six 'Lupo class' and two 'Almirante Clemente' class (CG);
**Fast attack craft:** six 'Constitucion' class (CG, two armed with Otomat SSMs);
**Amphibious warfare vessels:** five LSTs, two LCUs and 12 LCVPs
**Support vessels:** two transports, one survey ship, two survey launches and two patrol tugs (CG); and
**Miscellaneous vessels:** one tug, one sail training ship and three others.

The 3,500-strong naval air arm (Servicio de Aviación de la Marina Venezolana) comprises an ASW squadron with six Grumman S-2E Trackers, an ASW/surface strike helicopter squadron with 12 Agusta-Bell AB.212ASW helicopters for the 'Lupo' class frigates, a maritime patrol squadron with three CASA 212MPs, and a transport/communications fixed-wing squadron with nine aircraft (of which the two CASA 212 and one DHC-7 Dash 7 transport are the most important).

For the amphibious warfare fleet there is a 4,250-man marine corps which has four rifle battalions, an artillery group with 18 M101 105-mm howitzers, an amphibious assault company with 11 LVTP-7 amphibious APCs and an anti-aircraft company with six self-propelled M42 twin 40-mm guns. There are also around 30 EE-11 Urutu and 10 Transportpanzer 1 wheeled APCs. Small arms are the same as those used by the army.

## The National guard

The National Guard has a strength of 20,000 divided into static and mobile detachments each equivalent to an army battalion. They have a complete range of light infantry weapons up to the size of 60-mm mortars. The armoured element comprises 25 UR-416 wheeled APCs and 15 Shorland internal security vehicles. There are also some 43 coastal patrol craft of up to 70-ton displacement, and an air section which flies a mix of four fixed-wing aircraft and six helicopters.

## The Air Force

Although the 4,750-man Venezuelan air force (Fuerza Aérea Venezolana) is small, it has recently started a major re-equipment programme to maintain its position as one of the most modern air arms in South America. The pride and joy of the service must be the first General Dynamics F-16 Fighting Falcons to be sold to a South American country. One squadron of 16 F-16As and eight F-16Bs flies in the interceptor role together with a mixed squadron flying the survivors of 10 Dassault-Breguet Mirage IIIEVs, two Mirage 5DVs and four Mirage 5Vs delivered in the early 1970s. There are also two fighter-bomber squadrons with a total of 29 Canadair-built Northrop F-5A single-seaters and six F-5B two-seaters. Surprisingly there is also a light bomber force of two squadrons for use in the strategic, reconnaissance and interdiction missions. These squadrons fly a total of 12 BAe Canberra B.Mk 82s, five B(I)Mk 82s, one PR.Mk 83 and two T.Mk 84s. A single COIN squadron flies 15 Rockwell OV-10E Broncos. An expansion of this capability has been initiated with an order placed in Argentina for 24 of its FMA Pucará ground-attack aircraft.

To deliver the paratroops and support the army in the field there are two transport squadrons with a total of five Lockheed C-130H Hercules, seven Fairchild C-123A Providers, eight Aeritalia G222s and a few remaining Douglas C-47 Dakotas. The air force also has a paratroop battalion of its own, which can be used with the army's paratroop brigade or for air force-originated missions. A specialist VIP/Presidential unit is also present with three jet airliners, a Cessna 500 and two Bell UH-1H helicopters. Two liaison/utility/communications squadrons fly a total of 20 fixed-wing and 17 rotary-wing aircraft. For the straightforward rotary lift and SAR role there is a single helicopter squadron with 10 Bell UH-1H/Ds, two Bell 214STs and two Bell 412s. Training for these squadrons and the front-line units is carried out at the Escuela de Aviación Militar with some 23 Beech T-34 Mentors and 20 Rockwell T-2D Buckeyes. About half of the latter can also be used in the light attack role if required. A complete re-equipment of the training fleet was scheduled for the early 1980s, but a deal for the BAe Hawk jet trainer fell through because of the 1982 Falklands war.